VIDE-V15461

JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

BR-S811E/BR-S611E

– BR-S811E –

S-VHS 625 VHS PAL Hi-Fi

SPECIFICATIONS (BR-S811E/BR-S611E)

GENERAL
Format : VHS PAL/S-VHS Europe standard
Power requirement : AC 110/127/220/240 V∿, 50/60 Hz
Power consumption : 105 watts (Max. 115 watts with the Automatic Editing Control Unit, DC 12 V, 550 mA)
Dimensions : 42.9(W) x 18.8(H) x 51.4(D) cm
Weight : 25 kg
Operating temperature : 5° C to 40° C
Storage temperature : –20° C to 60°C
Tape speed : 23.39 mm/sec
Recording & Playback time : Max. 180 min. with JVC E-180/SE-180
Fast forward/Rewind time : Less than 4.5 min. for 180 min. tape
Search speed : Dial Search FWD/REW X ± 1/30 to X ± 10

VIDEO
Recording and palyback : Rotary four-head, helical scanning system
Luminance: FM recording
Colour signal: Phase shift, converted sub-carrier direct recording
Video signal system : PAL-type colour signal S-VHS Europe type Y/C signal

Input
Line : 0.5 to 2.0 Vp-p, 75 ohms, unbalanced
YC627 : Y: 1.0 Vp-p, 1 k-ohms, unbalanced
C: 0.9 Vp-p, 1 k-ohms, unbalanced
YC443 : Y: 1.0 Vp-p, 75 ohms, unbalanced
C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)

Output
Line : 1.0 Vp-p, 75 ohms, unbalanced
YC627 : Y: 1.0 Vp-p, 1 k-ohms, unbalanced
C: 0.9 Vp-p, 1 k-ohms, unbalanced
YC443 : Y: 1.0 Vp-p, 75 ohms, unbalanced
C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)

Signal-to-noise ratio : More than 45 dB
Horizontal resolution : More than 400 lines (S-VHS)
More than 250 lines (VHS colour)

External SYNC input : 0.5 to 4.0 Vp-p, 75 ohms, unbalanced
RF output (DOC) : 0.5 Vp-p, 75 ohms, unbalanced

AUDIO
Input
Line : –6/0/+4 dBs, 10 k-ohms/600 ohms switchable, balanced (Hi-Fi/Normal)
Mic : –67 dBs, 10-ohms, unbalanced
Output
Line : –6/0/+4 dBs, Low impedance, balanced (Hi-Fi/Normal)
Headphone : ∞ to –17 dBs, 8 ohms
Monitor : –6 dBs, Low impedance, unbalanced
Signal-to-noise ratio : More than 43 dB (NR-off) (at 3 % distortion) (Normal)
Dynamic range : More then 87 dB (Hi-Fi)
Frequency response : 20 to 20,000 Hz (Hi-Fi)
40 to 12,000 Hz (Normal)
Wow and flutter : Less than 0.005% WRMS (Hi-Fi)
Less than 0.15% WRMS (Normal)

Time code
Input : 0 ± 6 dBs, 10 k-ohms
Output : 0 ± 3 dBs, Low impedance

CONNECTORS
Video
Line input : BNC-type connecrot
Line output : BNC-type connectors
YC443/YC627 input/output : 7-pin connectors
Audio
Hi-Fi input/output : XLR connectors
Normal input/output : XLR connectors
Monitor output : RCA-pin connector
Microphones : 6 mm jacks
Headphones : 6 mm jack
Remote control : 45-pin connector
Accessories : 7-pin cable
: Switch cover

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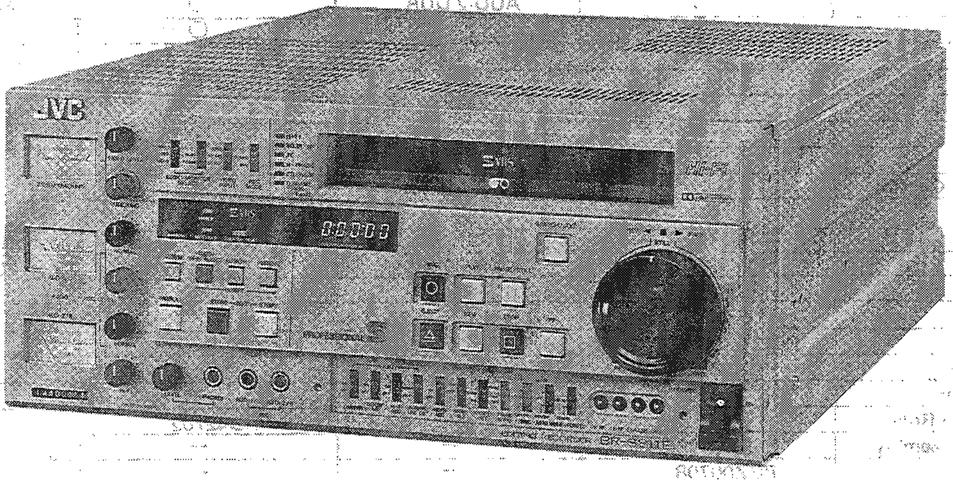
No. 9197
December 1989

BR-S811E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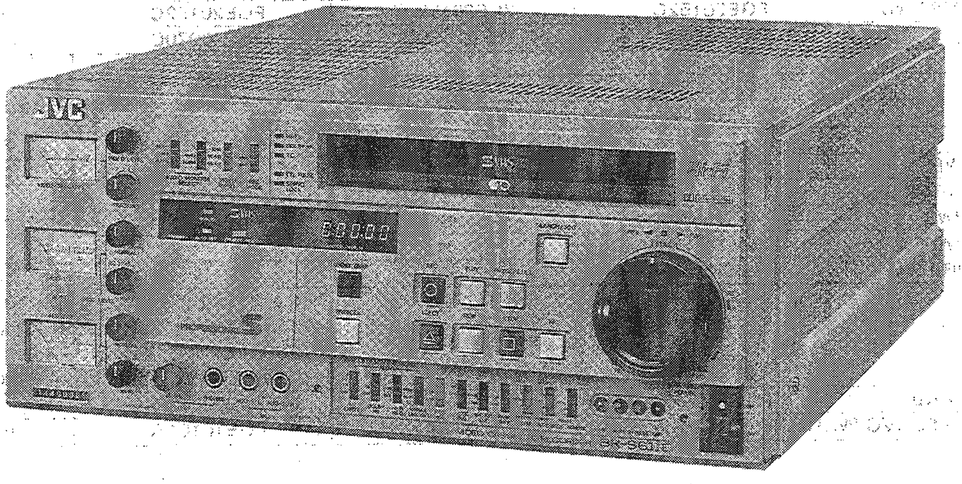
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BR-S611E

COMPARISON TABLE OF DIFFERENT PARTS & FUNCTION BY MODEL

In the following table, branch numbers of parts numbers are omitted. "←" means the same as left, "X" means no installation.

	BR-S810E	BR-S610E	BR-S811E	BR-S611E
Insert Edit	○	AUD-2 DUB	○	AUD-2 DUB
Assembly Edit	○	X	○	X
Timer REC/Play	X	○	X	○
COLOUR FRAME SERVO	○	X	○	X
Auto H. Phase Circuit	○	X	○	X
Auto Equalizer	X	X	○	○
Colour Enhancer	X	X	○	○
Dynamic Aperture Control	○	○	X	X
Drum Assembly	PDV2159A	PDV2167B	PDV2191A	PDV2192B
Upper Drum	PDM2088B	PDM2088D	PDM2088B	PDM2088D
A/C Head	PGZ00989	←	←	←
Full Erase Head	PU54397	←	←	←
Capstan Motor	PGZ00735-01-02	←	←	←
Supply Reel Motor	PGZ00869	←	←	←
Take-up Reel Motor	PGZ00869	←	←	←
Take-up Impedance Roller	X	X	PRD42702	←
Cassette Housing Assembly	PGS20108E	←	←	←
Fan Motor (1)	PGZ00708 or PGZ01136 or PGZ01137	← ← ←	← ← ←	← ← ←
Fan Motor (2)	X	X	PGZ01182	
Power Transformer	PGZ00711A	←	PGZ01203A	←
REC Y PWB	PGE20215A	←	PRK20014A	←
REC C PWB	PGE10098A	←	PRK20015A	←
PB Y PWB	PGE20218A	←	PRK20017A	←
Y 2H DELAY PWB	PGE20217A	←	PRK20019A	←
PB C PWB	PGE20219A	←	PRK20018A	←
Y/C SEP PWB	PGE20214A	←	PRK30013A	←
VIDEO P/R PWB	PGE10084B	←	PRK20021A	←
FM REC/PB PWB	PGE20216A	←	PRK20016A	←
CROSS TALK CAN. PWB	PGE20220A	←	PRK20020A	←
RF DL PWB	PGE20213A	←	X	X
RF DL & C ENH PWB	X	X	PRK20022A	←
FM AUDIO PWB	PGE10069B	←	←	←
NOR AUDIO PWB	PGE20149C	PGE20149D	PGE20149C	PGE20149D
ERASE & PREAMP PWB	PGE20152C	PGE20152D	PGE20152C	PGE20152D
SERVO-1 PWB	PGE10070C	PGE10070D	PGE10070C	PGE10070D
SERVO-2 PWB	PGE10071C	←	←	←
SYSCON PWB	PGE20170B	←	←	←
DRIVER PWB	PGE10073A	←	←	←
MOTHER PWB	PGE10102A	PGE10102B	PRK10009A	PRK10009B
REGULATOR PWB	PGE20155B	←	←	←
SUB REGULATOR PWB	X	X	PGE30198A	←
OPERATION-1 PWB	PGE10078A1	PGE10078B1	PGE10078A1	PGE10078B1
OPERATION-2 PWB	PGE10078C2	←	←	←
45P CONNECTOR PWB	PGE20157A	←	←	←
REAR PWB	PGE20164C	PGE20164D	PRK10012A2 (REAR) PRK10012A1 (A. CONN.) PRK30012A (TC CONN.) PRK30013A (V. CONN.)	PRK10012A2 (REAR) PRK10012A1 (A. CONN.) PRK30012B (TC CONN.) PRK30013A (V. CONN.)
AUTO H PHASE PWB	PGE30048C	X	PGE30048C	X
COLOUR FRAME SERVO PWB	PGE10101A	PGE20248A	PGE10101A	PGE20248A

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▒) parts are critical for safety.
   Replace only with specified part numbers.
   Note: **Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.**

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

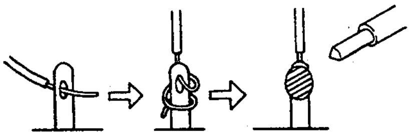


Fig. 1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

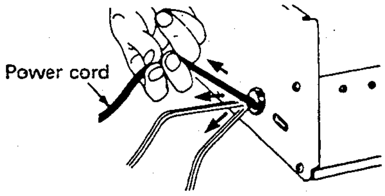


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

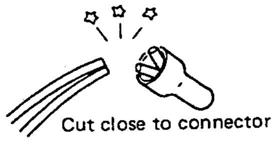


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

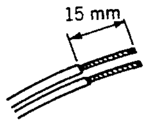


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

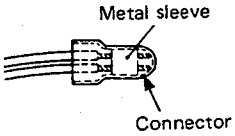


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

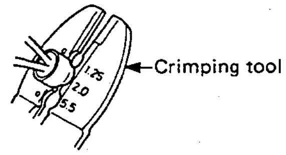


Fig. 6

(5) Check the four points noted in Fig. 7.

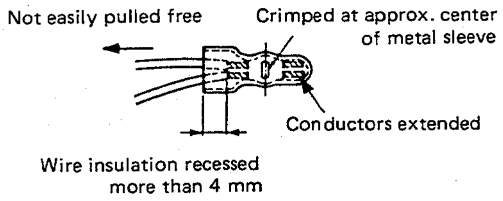

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

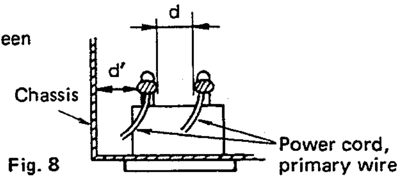


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method: (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

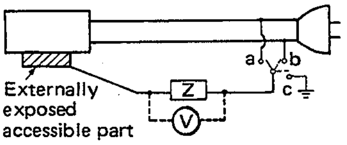
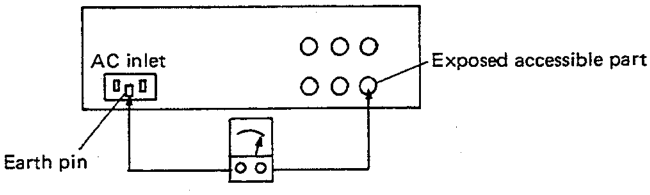


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.



Milli ohm meter

Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 900 V 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ /500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

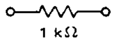
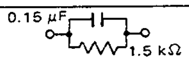
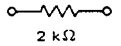
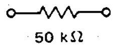
AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	 1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	 0.15 μF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	 2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		 50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

INSTRUCTIONS

JVC

BR-S811E

PROFESSIONAL EDITING RECORDER
MAGNETOSCOPE DE MONTAGE PROFESSIONNEL
SCHNITT-VIDEOREKORDER

S-VHS 625 VHS PAL Hi-Fi

Warning Notice
FOR YOUR SAFETY (Australia)

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

IMPORTANT (In the United Kingdom)
Mains Supply (AC 240 V∿)
WARNING – THIS APPARATUS MUST BE EARTHED

The wires in this mains lead are coloured in accordance with the following code:

GREEN-and-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows. The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or which is coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

POWER SYSTEM

Connection to the mains supply
The operating voltage of this set is preset to 240 V∿ at the factory.
Before connecting to mains, check that the voltage selector on the rear panel is set to the same voltage as your local mains supply.
Adapting to local power line
This set operates on either 110, 127, 220 or 240 V∿.
If the preset voltage is different from the power line voltage in your area, reset the voltage selector by inserting a screwdriver into the slot of the voltage selector and turning it until the correct voltage is displayed.

This equipment has been produced to comply with Directive number 82/499/EEC.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Note: The rating plate and the safety caution are on the rear of the unit.

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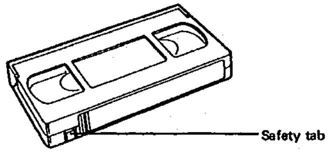
PRECAUTIONS

Handling and storage

- Avoid using the recorder under the following conditions:
  - extremely hot, cold or humid places,
  - dusty places,
  - near appliances generating strong magnetic fields,
  - places subject to vibrations, and
  - poorly ventilated places.
- Be careful of moisture condensation.
  Avoid using the recorder immediately after moving it from a cold place to a warm place or soon after heating a room which was cold. The water vapour in warm air will condense on the still-cold video head drum and tape guides and may cause damage to the tape and the recorder.
- Handle the recorder carefully.
  - Do not block the ventilation openings.
  - Do not place anything heavy on the recorder.
  - Do not place anything which might spill and cause trouble on the top cover of the recorder.
  - Use in horizontal (flat) position only.
- In case of transportation,
  - Avoid violent shocks to the recorder during packing and transportation.
  - Before packing, be sure to remove the cassette from the recorder.

Video cassettes

- This recorder employs S-VHS and VHS cassettes only.
  S-VHS: SE-180 for 180 minutes, SE-120 for 120 minutes and SE-60 for 60 minutes of recording.
  VHS: E-240 for 240 minutes, E-180 for 180 minutes, E-120 for 120 minutes, E-90 for 90 minutes and E-60 for 60 minutes of recording.
- Video cassettes are equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording cannot be performed.



- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or magnet) and dusty places.
- Place the cassettes in cassette cases and position vertically.

The previous SVHS logo mark has been changed to SVHS. Regardless of this change in the official logo the S-VHS system represented by either logo, new or old remanins completely identical, and therefore products carrying either logo can be used interchangeably.

FEATURES

High-quality video recording and playback
Conforming to the S-VHS format which offers a picture with well over 400 lines of horizontal resolution, the BR-S811E employs the Standard Play mode only to ensure the highest possible basic performance and the best possible overall picture quality, as required from an editing recorder.

Improved picture quality
Newly developed technologies for picture improvement include: a chroma enhancer (Faroudja circuit) to achieve sharp colour pictures with greatly reduced colour spreading at image borders; a CNR system to reduce chroma noise; an AUTO EQ circuit to compensate for deterioration of luminance signal frequency response due to over-played tapes, worn heads, or different tape characteristics; an improved drum motor to reduce picture jitter and colour snaking.

Professional-quality editing functions
The BR-S811E has a pair of rotary erase heads and a blanking switcher which make possible assemble and insert editing with virtually no distortion at edit points. Edit flagging and colour flashing are minimized by use of a colour framing servo and extremely stable horizontal phase lock. Furthermore, its 45-pin parallel remote control connector permits connection of the RM-G810U(E) Editing Controller of more effective editing.

Heavy-duty mechanism
Independent direct-drive motors are provided for the head drum, capstan and reels. For higher reliability and durability, all components are mounted on a heavy-duty aluminum diecast chassis.

Separate Y/C input/output connectors
In addition to the composite video signal, the luminance (Y) and chroma (C) signals can be input and output as separated signals, thereby producing clear colour pictures with minimized colour noise. To suppress deterioration of colour signals in dubbing, and thereby improve the overall quality of colour dubs, the Y/C 627 mode is also available.

Variable-speed dial search and jog control
Convenient, easy-to-operate, concentric control dials are provided for fast and accurate location of edit points. Turning the outer dial varies the tape speed from still to 10 times normal in either direction. The inner dial functions as a jog control which regulates the tape movement in either direction, accurately responding to the speed with which the dial is turned.

Hi-Fi VHS audio with dynamic range of more than 87 dB
A pair of rotary FM-audio heads is provided exclusively for the recording and playback of Hi-Fi audio signals with an extended frequency response and dynamic range. Separate input terminals are provided for Hi-Fi and normal audio so that different soundtracks can be recorded on these tracks. The normal audio is two-channel with the Dolby* noise reduction system.

*Dolby noise reduction system under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol ꓷꓷ are trademarks of Dolby Laboratories Licensing Corporation.

Manual audio/video level control
The recording level of the video and audio signals can be controlled manually by referring to independent level meters. The video level meter also serves as a tracking meter during playback.

Newly developed auto-cleaning mechanism
The video and Hi-Fi audio heads are automatically cleaned when the tape is loaded or unloaded.

Concentrated indications of recorder status settings
Easy-to-see LED indicators are provided on the front panel for framing/servo lock, CTL pulse, H-phase, time code, Dolby NR and Hi-Fi Audio.

Front panel test points
To facilitate alignment, test points for the video head and Hi-Fi audio head output signals are provided on the front panel.

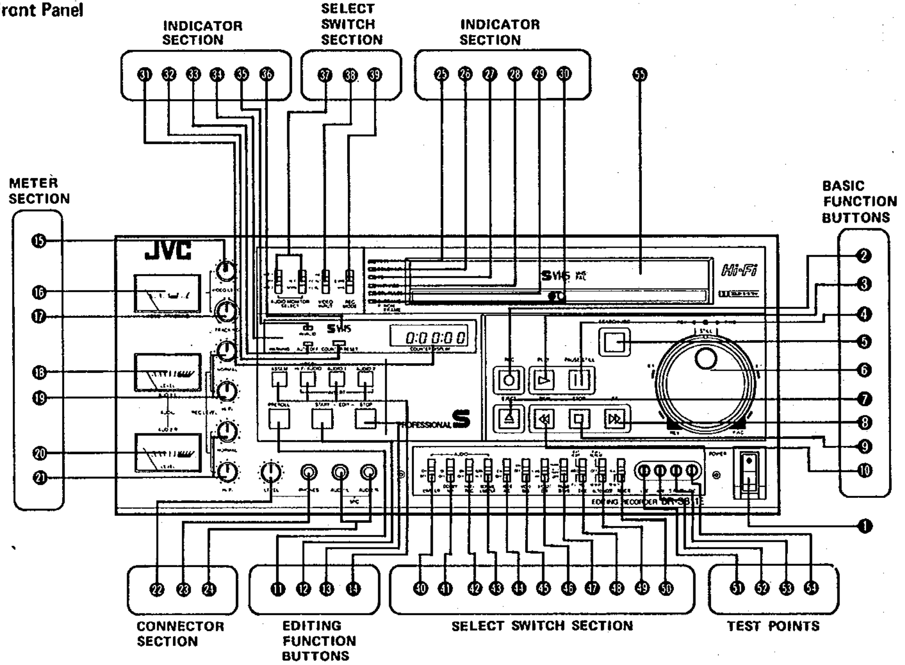
Half-loading mechanism
A new tape loading mechanism, called "half-loading", is employed to enable CTL pulses to be read even in the FF and REW modes.

Other features

- Balanced audio inputs and outputs for Hi-Fi and normal audio
- External sync and RF output (for DOC) connectors
- Self-illuminated function buttons
- Automatic repeat playback and counter Memory function
- 19-Inch EIA rack mounting possible
- Selectable audio monitor output (AUD-1/AUD-2/MIX/Hi-Fi/Normal)
- Digital time counter in hours, minutes and seconds
- Colour Framing/Framing servo on/off select switch
- Headphone jack with adjustable output level
- Recording and playback of EBU time code
- Hour meter showing up to 1000 hours
- Two VIDEO LINE OUT connectors and two separate Y/C IN/OUT (Y/C 627 & Y/C 443) connectors
- Hi-Fi audio output and Hi-Fi/normal switchable audio output connectors
- Hi-Fi audio recording on/off switch
- Microprocessor-controlled diagnostic warning system for detection and indication of electronic and mechanical malfunctions

CONTROLS AND CONNECTORS

Front Panel



BASIC FUNCTION BUTTONS

❶ **POWER switch**
Set to ON to turn the power on. The indicator will light and the level meters will be illuminated.

❷ **Record button (REC)**
Press together with the PLAY button for recording. Audio is recorded on both channels, if there are signals for them. The REC and PLAY buttons will remain illuminated during recording. When the REC button is pressed during playback, the monitor screen switches from the playback picture to the E-E mode picture, allowing you to monitor the signals applied to the input terminals.

❸ **PLAY button**
Press to start playback. The PLAY button will be illuminated. Press together with the REC button to start recording.

❹ **PAUSE/STILL button**
Press to stop the tape temporarily during recording or playback. The button will be illuminated. To release the Pause or Still mode, press any button except EJECT corresponding to the mode you wish to enter next.

❺ **SEARCH/JOG button**
Pressing this button enables the rotary search/jog dials. The button will be illuminated.

❻ **Rotary search/jog dials**
Constructed in the form of dual concentric controls, the outer control functions as a search dial and the inner one functions as a jog dial.
Search dial: When the dial is set to STILL (centre position), the Still mode is entered with the STILL indicator lit. When the dial is turned clockwise toward FWD, forward playback takes place at a speed corresponding to the dial setting, with the FWD indicator lit. When the dial is turned counterclockwise toward REV, reverse playback takes place at a speed corresponding to the dial setting, with the REV indicator lit. The search speed is continuously variable between 1/30 and10 times normal in both directions. If the control mode is changed by any function button, the dial setting remains unchanged and the corresponding speed is instantly engaged by pressing the SEARCH/JOG button.
Jog dial: Use the jog dial to view the tape manually; the tape moves at a speed with which this dial is turned. When the dial is turned clockwise, forward playback takes place, and vice versa. When the dial is stationary, the picture is still. The jog mode cannot be used in the Edit or Record mode.

❼ **EJECT button**
Press to eject the cassette. This button can be pressed in the Stop mode or immediately after the STOP button has been pressed.

⑧ Fast Forward button (FF)
Press to fast forward the tape. While the tape is being fast forwarded, the FF button will remain illuminated. This button can be pressed in any mode except Record, Edit or Eject. To release the Fast Forward mode, press the PLAY, STOP or REW button depending on the mode you want to enter next. Pressing this button in the Play or Search mode enables high-speed playback at about 10 times normal speed in the forward direction. During search the PLAY and FF buttons will remain illuminated.

⑨ STOP button
Press to stop the tape. When the STOP button is pressed, the tape is unloaded and then the Stop mode is engaged. The STOP button blinks during tape unloading and remains lit upon completion of unloading.

⑩ Rewind button (REW)
Press to rewind the tape. While the tape is being rewound, the REW button will remain illuminated. This button can be pressed in any mode except Record, Edit or Eject. To release the Rewind mode, press the PLAY, STOP or FF button depending on the mode you want to enter next. Pressing this button in the Play or Search mode enables high-speed playback at about 10 times normal speed in the reverse direction. During search the PLAY and REW buttons will remain illuminated.

EDITING FUNCTION BUTTONS

⑪ PREROLL button
Operative in the Still mode. When this button is pressed after the edit point has been determined by pressing the PAUSE/STILL button, the tape is rewound by about 10 seconds of program time and enters the Edit Standby mode. (The PLAY and PAUSE/STILL buttons will be illuminated.) To cancel this mode, press the EDIT STOP or PLAY button.

⑫ EDIT START button
Press to start editing. This button functions in the Edit Standby or Play mode.

⑬ EDIT STOP button
Press to stop editing.

⑭ Edit mode select buttons
ASSEM: When this button is pressed to ON (it will be illuminated), video, Hi-Fi audio, normal audio-1 and audio-2 signals are all assemble-edited when the EDIT START button is pressed.
INSERT
AUDIO-1: Press to ON to insert-edit the normal audio-1 signal.
AUDIO-2: Press to ON to insert-edit the normal audio-2 signal.
VIDEO/Hi-Fi AUDIO: Press to ON to insert-edit the video and Hi-Fi audio signals.

- To release these buttons to OFF, press them once again.
- The AUDIO-1, AUDIO-2 and VIDEO/Hi-Fi AUDIO buttons can be pressed to ON in any combination. Also, these buttons can be switched ON or OFF even during insert-editing.

METER SECTION

⑮ VIDEO LEVEL control
To adjust the video recording level manually, set the VIDEO AGC switch ㊹ to OFF and turn this control so that the meter ⑯ deflects into the green area.

⑯ VIDEO/TRACKING meter
Functions as a video level meter during recording and as a tracking meter during playback.

⑰ TRACKING control
To remove noise bars or to correct Hi-Fi tracking during playback, turn this control so that the meter ⑯ makes its maximum deflection.

⑱ AUDIO-1/LEFT AUDIO level meter
Indicates the recording level of the normal audio-1 or Hi-Fi left-channel signal during recording, the playback signal during playback or the E-E signal in any other mode. Switching between normal and Hi-Fi is done with the AUDIO MONITOR SELECT switch.

⑲ NORMAL/Hi-Fi (AUD-1/LEFT) REC LEVEL controls
To adjust the normal audio-1 or Hi-Fi left-channel signal, turn the corresponding control so that the meter ⑱ deflects to "0" with the loudest signal.

⑳ AUDIO-2/RIGHT AUDIO level meter
Indicates the recording level of the normal audio-2 or Hi-Fi right-channel signal during recording, the playback signal during playback or the E-E signal in any other mode.

㉑ NORMAL/Hi-Fi (AUD-2/RIGHT) REC LEVEL controls
To adjust the normal audio-2 or Hi-Fi right-channel signal, turn the corresponding control so that the meter ⑳ deflects to "0" with the loudest signal.

CONNECTOR SECTION

㉒ PHONES LEVEL control
Adjusts the output level of the PHONES jack.

㉓ PHONES jack
Connect a set of headphones for monitoring the sound being recorded.

㉔ MIC jacks (AUD-1/LEFT, AUD-2/RIGHT)
Connect microphones to switch the input signal from line to microphone.

INDICATOR SECTION

㉕ Hi-Fi indicator
Lights when Hi-Fi audio signals are being recorded.

㉖ Dolby NR indicator
Lights when the built-in Dolby* noise reduction system is activated.

㉗ Time Code indicator (TC)
Remains lit when the rear panel TIME CODE/AUDIO select switch ㉓ is in the TIME CODE position.
Note: When the indicator is lit, the NORMAL audio-2 signal is muted.

㉘ H-PHASE indicator
Lights when the horizontal phase of the BR-S811E and a connected player's phase are synchronized.

㉙ CTL PULSE indicator
Lights when a tape with no control pulse recorded is played back.

㉚ SERVO LOCK indicator
Lights when the servo system is locked for normal operation.

㉛ Realtime tape counter
Shows tape time in hours, minutes and seconds by counting the number of CTL pulses. This tape counter does not function when a tape with no CTL pulses is being played back. The display starts blinking 5 to 10 minutes before the tape end during recording.

㉜ COUNTER RESET button
Press to reset the tape counter to zero.

㉝ AUTO OFF indicator
If the tape running is in some way incorrect, this indicator will light.

㉞ WARNING display
Two-digit numbers indicate various malfunctions for easy troubleshooting. For more details, refer to pages 20 and 21.

㉟ INVALID indicator
Lights when the REC and PLAY buttons are pressed in the S-VHS recording mode with a standard VHS tape loaded. No change in mode will take place, but the previous operation will continue.

㊱ S-VHS indicator
Lights when the S-VHS recording mode is selected. In playback of S-VHS recordings, lights automatically.
Also lights when playing back the blank section of VHS tapes.

SELECT SWITCH SECTION

㊲ AUDIO MONITOR SELECT switches
These switches select the audio output available from the PHONES jack and the AUDIO MONITOR connector. The Hi-Fi/NORMAL switch also functions to switch the audio level meters between Hi-Fi and NORMAL.
Hi-Fi: To monitor the Hi-Fi audio signals.
NORMAL: To monitor the NORMAL audio signals.
AUD-1/LEFT: To monitor the NORMAL audio-1 or Hi-Fi left-channel signal.
MIX: To monitor a mixture of both channels.
AUD-2/RIGHT: To monitor the NORMAL audio-2 or Hi-Fi right-channel signal.
Note:
The output from the AUDIO OUT NORMAL RIGHT connector is shorted if the TC indicator ㉗ is lit.

㊳ VIDEO INPUT select switch
Selects the video input signal applied to the VIDEO IN LINE or YC443, YC627 connector.
LINE: Set to this position when recording the composite video signal applied to the VIDEO IN LINE connector.
YC443: Set to this position when recording the separated Y/C signals conforming to the YC443 system (S-VHS signal) applied to the YC443 connector.
YC627: Set to this position when recording the separated Y/C signals conforming to the YC627 system (Y and down converted C signals) coming from the YC627 OUT connector applied to the YC627 connector.

㊴ REC MODE select switch
S-VHS : To record in the S-VHS mode (SP).
VHS : To record in the VHS mode (SP).

㊵ AUDIO LIMITER switch
Set to ON to activate the built-in audio limiter circuit. Manual level control is possible even when the limiter circuit is on.

㊶ Audio noise reduction switch (NR)
Set to ON to activate the built-in Dolby* noise reduction system for the NORMAL audio signal.

㊷ Hi-Fi REC select switch
ON: Set to ON to record the Hi-Fi audio signal.
OFF: Set to OFF when recording the Hi-Fi audio signal is not desired.

㊸ NORMAL LINE OUT select switch
Selects the output signal from the AUDIO OUT NORMAL connectors.
NORM: Set to this position to output the normal audio signals from the AUDIO OUT NORMAL connectors.
Hi-Fi: Set to this position to output the Hi-Fi audio signals from the AUDIO OUT NORMAL connectors.

㊹ VIDEO AGC switch
Set to ON to activate the built-in video AGC circuit.

㊺ VIDEO DUB switch
OFF: Normally set to this position. The detail enhancer (only VHS mode) circuit will be ON in recording, and the noise reduction circuit will be ON in playback.
ON: In this position, the detail enhancer (only VHS mode) circuit is OFF in recording, and the noise reduction effect is reduced in playback. Set the switch to this position when using the BR-S811E as the player in dubbing.

㊻ YC627 OUT select switch
S-VHS: In YC627 dubbing with an S-VHS recorder (BR-S810E/BR-S610E/BR-S811E/BR-S611E), set the player to this position.
VHS: YC627 dubbing with VHS recorder (BR-8600E/BR-6600E) or an S-VHS recorder (BR-S810E, BR-S610E/BR-S811E/BR-S611E) set to the VHS mode, set to this position.

㊼ FRAME SERVO switch
FRAME: Set to this position when editing from tapes which were not recorded in the colour frame mode.
COLOUR FRAME: Normally set to this position. Colour framing servo will produce distortion-free edits.
OFF: Set to this position when editing tapes which contain random-interlaced or low S/N signals.

㊽ SYNC select switch
Selects between different reference sync signals for the servo system during recording and playback.
EXT (EDIT): Set to this position when using the BR-S811E as a recorder in the external sync mode.
EXT (PB): Set to this position when using the BR-S811E as a player in the external sync mode.
VIDEO: Set to this position when recording or playing back using the input video signal as a reference signal.
For more information, refer to "REFERENCE SYNC SIGNALS on page 15.

㊾ **AUTO MODE switch**
Selects between different automatic operations.
FULL REPEAT: For repeated playback from the beginning of the tape.
OFF: No automatic operation.
MEMORY: In the Rewind or Fast Forward mode, the tape will stop automatically at the counter reading of "0" or a few frames away from "0".

㊿ **REMOTE switch**
LOCAL: Set to this position when the recorder is to be controlled with its own function buttons. (With this switch set to the LOCAL position, the remote control unit connected to the rear panel 45-pin REMOTE connector will not function.)
REMOTE: Set to this position when the recorder is to be remote-controlled with the remote control unit connected to the 45-pin REMOTE connector. (No function buttons of the recorder except STOP and EJECT will function when this switch is set to the REMOTE position.)

TEST POINTS

(51) **V-RF test point**
The video head signal is output in the form of an FM signal during playback, allowing clogged or worn heads to be detected.

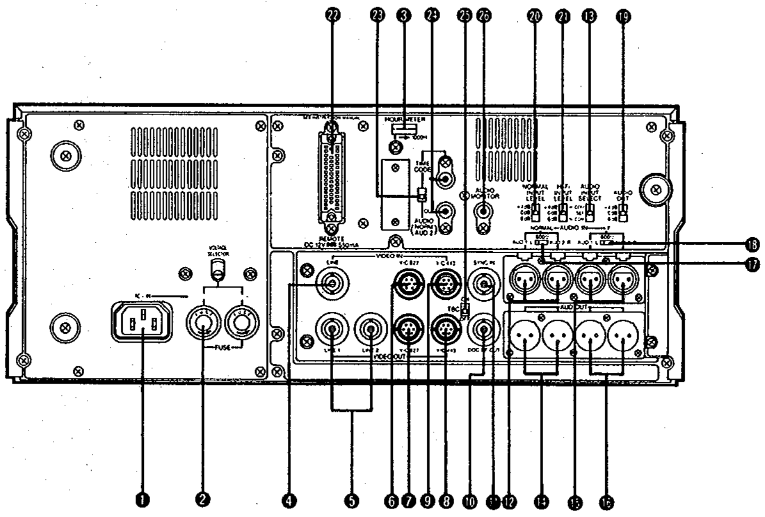
(52) **A-RF test point**
The Hi-Fi audio signal is output in the form of an FM signal during playback, allowing clogged or worn heads to be detected.

(53) **D-PULSE pin**
Connect to the external trigger terminal of an oscilloscope for a sync signal.

(54) **GND pin**
Connect to the ground terminal of an oscilloscope.

(55) **Cassette loading slot**
With the POWER switch set to ON, insert a video cassette with its labelled edge facing toward you. The cassette carriage will automatically take control and retract the cassette into the correct loaded position.

Rear Panel



① **AC input socket (AC IN)**
Connect to 110/120/220/240 V AC, 50/60 Hz power outlet.

② **FUSE holder**

③ **HOUR METER**
Indicates the total operating time. After 1,000 hours of operation, the red line moves to the top end of the scale.

④ **VIDEO IN LINE connector**
Input connector for the composite video signal.

⑤ **VIDEO OUT LINE connectors**
Output connectors for the composite video signal. The same signal is output via these connectors in parallel.

⑥ **VIDEO IN YC627 connector**
Receives the Y/C627 signal (separated luminance and down converted signals) via a Y/C cable.

⑦ **VIDEO OUT YC627 connector**
Delivers the Y/C627 signal via a Y/C cable.

⑧ **VIDEO IN YC443 connector**
Receives the Y/C443 signal (separated luminance and chroma signals) via a Y/C cable.

⑨ **VIDEO OUT YC443 connector**
Delivers the Y/C443 signal to be monitored. Connect to a monitor equipped with an S-VIDEO input terminal using an optional Y/C cable.

⑩ **DOC RF OUT connector**
For connection to a DOC (Dropout Compensator) or the DOC input terminal of a time base corrector.

⑪ **External sync signal input connector (SYNC IN)**
Accepts an external reference sync signal when the recorder is to be operated in the external sync mode. The external sync signal can be a composite sync or composite video signal.

⑫ **AUDIO IN NORMAL connectors (AUD-1/L, AUD-2/R)**
Normal audio input connectors for Audio-1 (Left) and Audio-2 (Right).

⑬ **AUDIO INPUT SELECT switch**
H COM: Set to this position to record the audio signals being input to the AUDIO IN Hi-Fi connectors onto both the Hi-Fi and Normal audio tracks. "Hi-Fi Combined" recording.
SEP: Set to this position to record the audio signals being input to the AUDIO IN Hi-Fi connectors onto the Hi-Fi audio track, and to the AUDIO IN NORMAL connectors onto the Normal audio track. "Separate" recording.
N COM: Set to this position to record the audio signals being input to the AUDIO IN NORMAL connectors onto both the Hi-Fi and Normal audio tracks. "Normal Combined" recording.

⑭ **AUDIO OUT NORM/Hi-Fi connectors (AUD-1/L, AUD-2/R)**
Normal audio or Hi-Fi audio output connectors for Audio-1 (Left) and Audio-2 (Right) depending on the setting of the front panel NORMAL LINE OUT select switch.

⑮ **AUDIO IN Hi-Fi connectors (AUD-1/L, AUD-2/R)**
Hi-Fi audio input connectors for Audio-1 (Left) and Audio-2 (Right).

⑯ **AUDIO OUT Hi-Fi connectors (AUD-1/L, AUD-2/R)**
Hi-Fi audio output connectors for Audio-1 (Left) and Audio-2 (Right).

⑰ **NORMAL AUDIO input impedance switch**
Select either 10 k-ohms or 600-ohms according to the impedance level of the audio input signal. Set to ON for 600-ohms balanced audio input signals and to OFF for high impedance (10 k-ohms) signals.

⑱ **Hi-Fi AUDIO input impedance switch**
Select either 10 k-ohms or 600-ohms according to the impedance level of the audio input signal. Set to ON for 600-ohms balanced audio input signals and to OFF for high impedance (10 k-ohms) signals.

⑲ **AUDIO output level select switch**
Select -6 dB, 0 dB or +4 dB according to the level of the audio output signal. The level is switched for both Normal/Hi-Fi and Left/Right audio channels simultaneously.

⑳ **NORMAL AUDIO input level select switch**
Select -6 dB, 0 dB or +4 dB according to the level of the Normal audio input signal. The level is switched for both Left/Right audio channels simultaneously.

㉑ **Hi-Fi AUDIO input level select switch**
Select -6 dB, 0 dB or +4 dB according to the level of the Hi-Fi audio input signal. The level is switched for both Left/Right audio channels simultaneously.

㉒ **REMOTE control connector**
Connect a JVC remote control unit.

㉓ **TIME CODE/AUDIO select switch**
Set to TIME CODE to record the time code on the Normal audio track channel 2. Normally set this switch to AUDIO.

㉔ **TIME CODE IN/OUT connectors**
Connect a time code generator to the IN connector when you want to record the EBU time code. The TIME CODE/AUDIO select switch must be set to TIME CODE. To obtain the time code for editing, connect a time code reader to the OUT connector.

㉕ **Time base corrector switch (TBC)**
Normally set to OFF. When you use a TBC, set it to ON. Also set the SYNC select switch to EXT (PB).

㉖ **AUDIO MONITOR connector**
The audio signal selected by the AUDIO MONITOR SELECT switches is available via this connector.

DIAL SEARCH & SHUTTLE SEARCH

SHUTTLE SEARCH AND JOG CONTROL

The arrangement of the search dial and the jog dial is concentric; the outer control functions as a search dial and the inner, a jog dial. These functions are especially convenient for quick location of edit points.

SEARCH

Turn the outer dial until the desired search speed is reached.

- The search speed is continuously variable between 1/30 and 10 times normal in both directions.
- The STILL position (centre click-stop) provides a still picture.
- Turn the dial clockwise to search in the forward direction and counterclockwise to search in the reverse direction.
- The X1 click-stop provides normal speed in the forward direction and X-1, in the reverse direction.
- There is another click-stop between X1 and the fully clockwise position and between X-1 and the fully counterclockwise position. These are the positions for 6 times normal speed in forward and reverse respectively.
- The fully clockwise position and the fully counterclockwise position provide about 10 times normal speed.

Notes:

- When the dial is set to the X1 click-stop, the internal sync mode is automatically entered.

JOG

Turn the inner dial.

- A still picture is obtained at any moment you stop turning the dial.
- To move the picture in the forward direction, turn the dial clockwise; to move it in the reverse direction, turn counterclockwise.

To cancel the search or jog mode:

- Press the PLAY, PAUSE/STILL, FF, REW or STOP button according to the mode you want to enter next. The search dial setting remains unchanged.

Notes:

- During search, an extra pair of video heads operate and pick up only even-number fields of the picture. When the dial is set to X1, frame playback is engaged.
- If the Still mode continues for too long a time, the tape could be damaged. Therefore, if you leave the unit in the Still mode for more than about 3 minutes 45 seconds, the video track being traced will shift automatically.

SEARCH REW/SEARCH FF

When the REW or FF button is pressed in the Stop mode, normal rewind or fast forward takes place. When these buttons are pressed in the Play, Search or Still mode, the tape runs at about 10 times normal speed in the corresponding direction. The buttons can be locked and the indicator lights. You can follow the speeded-up picture on the monitor screen.

REPEAT PLAYBACK, COUNTER SEARCH & AUTO REWIND

REPEAT PLAYBACK

When the entire tape, from the beginning to the end, is to be repeated, proceed as follows:

❶ Set the AUTO MODE switch to FULL REPEAT.

❷ Press the PLAY button to start playback.

- When the tape reaches its end, it is rewound to the beginning and then played back again automatically. The procedure is repeated as many times as desired.

COUNTER SEARCH

The counter search mechanism functions in conjunction with the tape counter and stops the tape automatically in the Rewind or Fast Forward mode at the counter reading of "0".

❶ Press the COUNTER RESET button at a point which you may wish to locate later.

❷ Set the AUTO MODE switch to MEMORY.

❸ Press the REW or FF button when you need to return to the designated point. The tape will stop automatically at the counter reading of "0".

Notes:

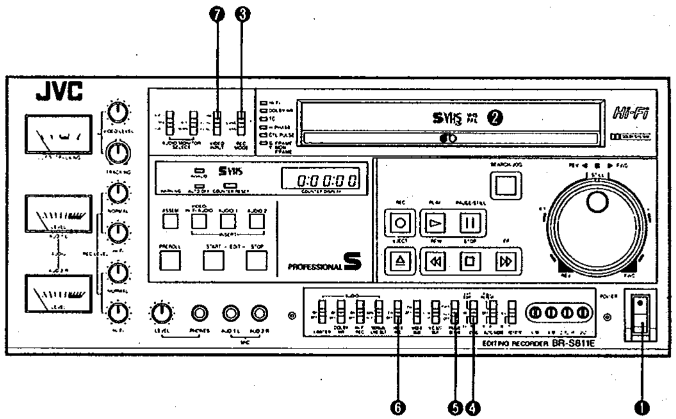
- The counter search mechanism does not function in the Shuttle Search mode.
- The tape may stop at a position slightly deviated from the counter reading of "0".

AUTO REWIND

When the tape reaches its end in the Play or Record mode, it is automatically rewound to the beginning and then the Stop mode is engaged. The counter search mechanism functions automatically while the tape is being rewound. If the tape reaches its end in the Fast Forward mode, the auto rewind mechanism does not function and the Stop mode is engaged immediately.

RECORDING

PREPARATION



❶ Set the POWER switch to ON.

❷ Insert a video cassette into the cassette loading slot.

❸ Set the REC MODE select switch.
VHS :To record in the VHS SP mode.
S-VHS: To record in the S-VHS SP mode. (Be sure to use an S-VHS tape.)

❹ Set the SYNC switch to VIDEO.

- If an external sync signal is used, set it to EXT (EDIT).

❺ Set the FRAME SERVO switch to COLOUR FRAME if colour framing servo is to be applied to editing.

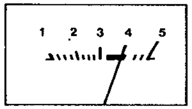
- It is recommended that this switch be set to OFF when you record from a tape whose playback picture has an inferior S/N ratio, a multi-generation copy, a tape recorded using a random-interlaced ITV camera or a tape edited using another manufacturer's editor.

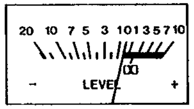
❻ Set the VIDEO AGC switch to ON if the built-in video AGC circuit is to be used.

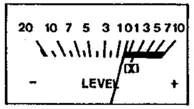
❼ Set the VIDEO INPUT select switch as required.

Note:
When this unit is used as a recorder in the VHS mode, set the VIDEO DUB switch to ON.

RECORDING LEVEL ADJUSTMENTS







Video level adjustment

- For automatic level control, set the VIDEO AGC switch to ON.
- For manual level control, set the VIDEO AGC switch to OFF and turn the VIDEO LEVEL control so that the VIDEO/TRACKING meter deflects into the green zone while applying the EBU colour bar video signal to be recorded.

Audio level adjustment

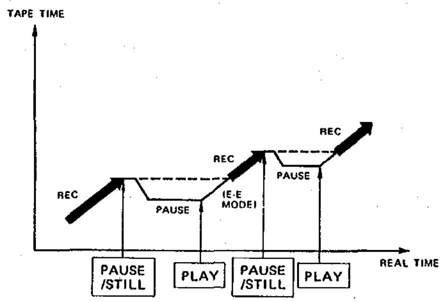
- Set the AUDIO INPUT SELECT switch, on the rear panel, depending on the input signal level.
- Turn the AUDIO REC LEVEL control until the AUDIO meter deflects to "0" with the loudest signal. This is the standard adjustment of the audio recording level.
- Set the LIMITER switch to ON to avoid eventual over-level recordings.

PROCEDURE

❶ Press the REC and PLAY buttons simultaneously. The Record mode will be engaged and both the REC and PLAY button lamps will light.

❷ Press the STOP button to stop recording.

RECORD PAUSE



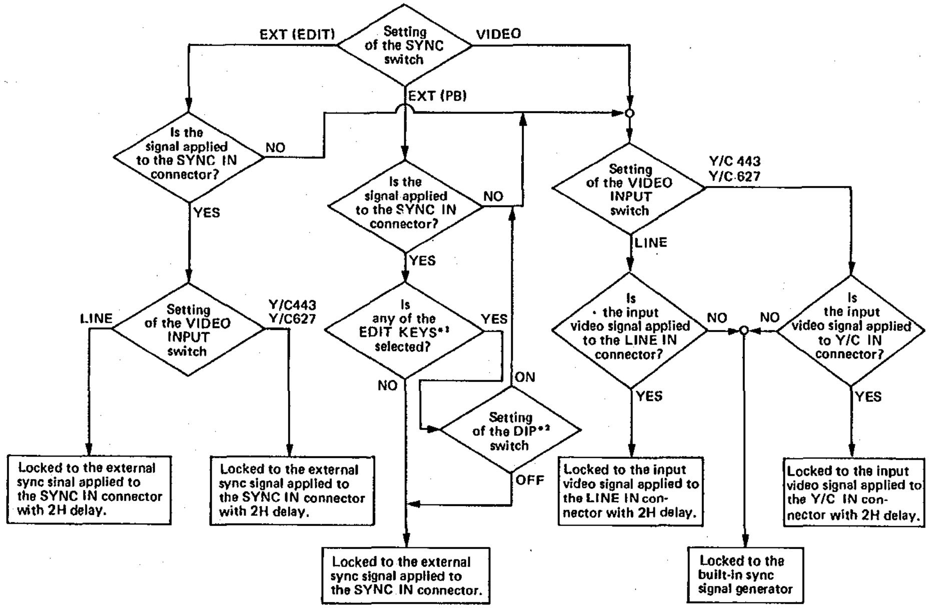
Recording can be stopped temporarily and restarted without detectable distortion in the picture.

❶ Press the PAUSE/STILL button during recording. Recording will be stopped with the REC indicator still lit. The tape is automatically rewound by about 2.5 seconds of program time and stops in the Record Pause mode with both the REC and PAUSE/STILL indicators lit. The E-E picture will appear on the screen. When the PAUSE/STILL button is pressed again in this state, the picture recorded immediately before can be seen as a still picture.
- If recording is restarted immediately after the still picture appears, the top portion of the picture at the edit point may be skewed.

❷ To restart recording, press the PLAY button. The tape will be played back for about 2.5 seconds and the mode will switch automatically from playback to recording at the point where the PAUSE/STILL button was pressed.

Note: In this case, as the colour frame servo does not operate, colour flashing may occur at the edit point.

REFERENCE SYNC SIGNALS


Setting of the SYNC switch
EXT (EDIT)
VIDEO
EXT (PB)
Is the signal applied to the SYNC IN connector?
NO
YES
Setting of the VIDEO INPUT switch
LINE
Y/C443 Y/C627
Locked to the external sync sinal applied to the SYNC IN connector with 2H delay.
Locked to the external sync signal applied to the SYNC IN connector with 2H delay.
Is the signal applied to the SYNC IN connector?
NO
YES
Is any of the EDIT KEYS*1 selected?
YES
NO
Setting of the DIP*2 switch
ON
OFF
Locked to the external sync signal applied to the SYNC IN connector.
Setting of the VIDEO INPUT switch
Y/C 443 Y/C 627
LINE
Is the input video signal applied to the LINE IN connector?
NO
YES
Locked to the input video signal applied to the LINE IN connector with 2H delay.
Is the input video signal applied to Y/C IN connector?
NO
YES
Locked to the input video signal applied to the Y/C IN connector with 2H delay.
Locked to the built-in sync signal generator

*1 EDIT KEYS: The editing function buttons (ASSEM, AUDIO-1, AUDIO-2, VIDEO/Hi-Fi AUDIO and EDIT START) and REC button.

*2 DIP switch: An internal switch. Please consult JVC's service section.

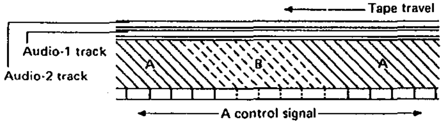
ELECTRONIC EDITING

TYPES OF ELECTRONIC EDITING

Electronic editing includes two different types of functions: insert editing and assemble editing. The signals to be inserted or assembled can be camera signals, TV broadcast signals or playback signals from a video cassette recorder.

Insert editing

Insert editing is a technique for replacing part of the recorded video and/or audio signals with new recordings, utilizing the control signals already recorded.


Tape travel
Audio-1 track
Audio-2 track
A
B
A
A control signal

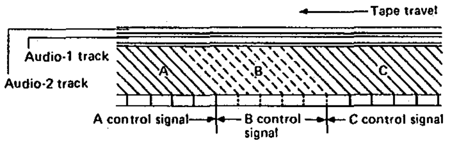
In the Insert Edit mode, the video, audio-1 and audio-2 signals can be recorded separately or in any combination. This means you can edit both video and audio signals simultaneously or first edit the video signal and then the audio signals in accordance with the newly recorded video signal. Or you can edit the audio signals first and then record new images in accordance with the sound.

Note:

Insert editing should be applied to those tape segments on which the video and control signals have been correctly recorded in advance.

Assemble editing

Assemble editing is a technique in which video and audio signals together with the control signal are newly recorded following an already recorded control signal to edit a full-length tape. This is convenient for editing short scenes one after another.


Tape travel
Audio-1 track
Audio-2 track
A
B
C
A control signal
B control signal
C control signal

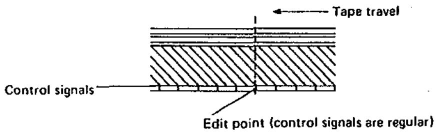
MECHANISMS FOR ENHANCING EDITING ACCURACY

The BR-S811E is fully equipped for high-accuracy electronic editing.

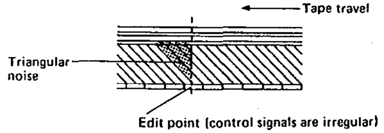
Rotary erase mechanism

The rotary erase mechanism is essential for quality edits. A pair of erase heads are mounted on the head drum each before a corresponding video head and, in both insert and assemble editing, these erase heads erase the recorded signal on each track before the video heads record new signals. Unlike home-use editing mechanisms using a fixed erase head which allow new recordings over old ones and result in triangular noise, the rotary erase mechanism provides cleaner edits free from noticeable distortion. It also enables separate use of the video, audio-1 and audio-2 tracks for flexible editing.

Electronic editing


Tape travel
Control signals
Edit point (control signals are regular)

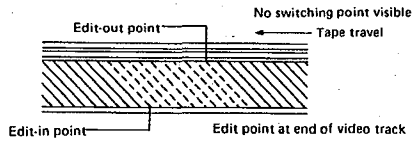
Editing with fixed erase head


Tape travel
Triangular noise
Edit point (control signals are irregular)

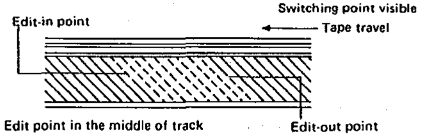
Blanking switcher mechanism

The rotary erase mechanism cannot provide perfect edits on its own. If editing is started in the middle of one video track, a switching point will be noticeable on the screen momentarily. To avoid this, the blanking switcher mechanism controls editing so that the switching point always falls on the blanking period of the video signal (during this period, switching from one track to another takes place in perfect synchronization outside the raster). Because the signal is not visible on the screen during the blanking period, there is no distortion at edit points.

Blanking switcher editing

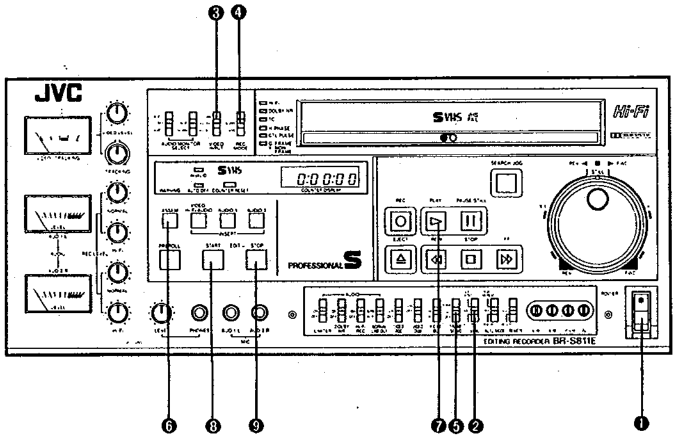

No switching point visible
Edit-out point
Tape travel
Edit-in point
Edit point at end of video track

Ordinary editing


Switching point visible
Edit-in point
Tape travel
Edit point in the middle of track
Edit-out point

EDITING OPERATION

ASSEMBLE EDITING

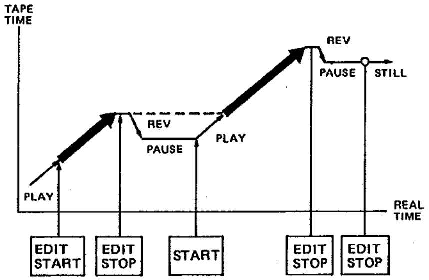


❶ Set the POWER switch to ON and load a video cassette correctly.
❷ Set the SYNC switch to VIDEO.
- If external sync is to be applied, set it to EXT (EDIT).

❸ Set the VIDEO INPUT select switch as required. See page 6.
❹ Set the REC MODE select switch to VHS or S-VHS.
❺ Set the FRAME SERVO switch to COLOUR FRAME if colour framing servo is to be applied to EDITING.
- It is recommended that this switch be set to OFF when you record from a tape whose playback picture has an inferior S/N ratio, a multi-generation copy, a tape recorded using a random-interlaced ITV camera or a tape edited using another manufacturer's editor.

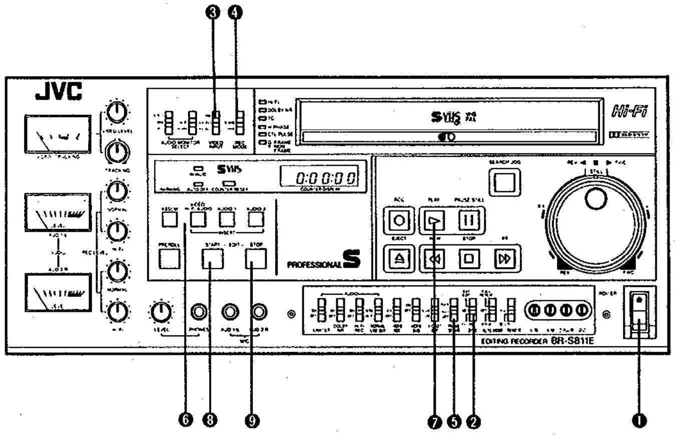
❻ Press the ASSEMBLE button to ON.
❼ Press the PLAY button to start playback.
❽ Press the EDIT START button at the point where you wish to introduce new program material. The video and audio signals are all recorded simultaneously.
❾ Press the EDIT STOP button to stop assemble editing. This cancels recording and rewinds the tape for about 10 seconds of program time and stops. The Record Pause mode has been engaged.
❿ To assemble more program material following the previous edit press the EDIT START button. First the Play mode is entered and, when playback proceeds to the point where the previous edit ended, recording of the new program material begins automatically.

Notes:
- YC627 dubbing cannot be performed from VHS to S-VHS.
- In YC627 dubbing using a VHS tape worn by being dubbed several times in the player in the VHS mode, the INVALID indicator may light.
- In YC627 dubbing, the top of the EE picture from the recorder may be distorted. This is not due to a defect in the unit. This distortion does not influence recording and playback.
- In YC627 dubbing, colour flashing may occur at the edit point. In this case, it is recommended to use YC 443 dubbing on composite dubbing.



⓫ Assembling of successive program segments can be continued simply by pressing the EDIT STOP and the EDIT START buttons alternately.
⓬ To cancel the assemble editing mode after completion of the assemble editing process, press the EDIT STOP button.

INSERT EDITING



❶ Set the POWER switch to ON and insert a video cassette correctly.
❷ Set the SYNC switch as required.
- Refer to page 15.

❸ Set the VIDEO INPUT select switch as required.
- Refer to page 6.

❹ Set the REC MODE select switch as required.
❺ Set the FRAME SERVO switch to COLOR FRAMING if color framing servo is to be applied to EDITING.
- It is recommended that this switch be set to OFF when you record from a tape whose playback picture has an inferior S/N ratio, a multi-generation copy, a tape recorded using a random-interlaced ITV camera or a tape edited using another manufacturer's editor.

❻ Press one or more of the INSERT buttons depending on the signals to be inserted.

AUDIO-1: Press this button to ON when you wish to replace the sound on the audio-1 track. Leave it OFF to preserve the original sound.

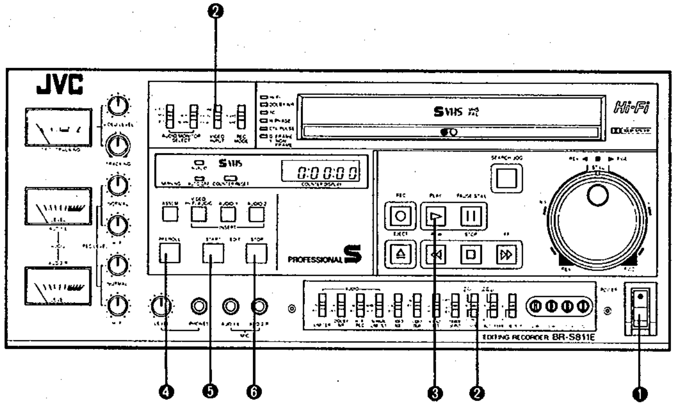
AUDIO-2: Press this button to ON when you wish to replace the sound on the audio-2 track. Leave it OFF to preserve the original sound.

VIDEO/Hi-Fi AUDIO: Press this button to ON to replace the video signal/Hi-Fi audio signal with new material. Leave it OFF to preserve the original picture and original sound.

❼ Press the PLAY button to start playback.
❽ Press the EDIT START button at the point where you wish to insert new program material. Recording will take place only for the channels which have been selected with the INSERT buttons.
Note: The INSERT buttons (VIDEO/Hi-Fi AUDIO, AUDIO-1 and AUDIO-2) can be switched ON or OFF independently at any time while in the Insert Edit mode.
❾ To stop insert editing, press the EDIT STOP button. The recorder will enter the Play mode.

Notes:
- Insert editing is not possible with tapes without correctly recorded control signals.
- Insert editing will stop automatically if a tape segment without correctly recorded control signals is reached.

PREROLL EDITING



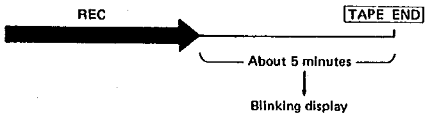
This function enables edit-in points to be determined accurately in both the Assemble and Insert Edit modes.

❶ Set the POWER switch to ON and insert a video cassette correctly.
❷ Set the SYNC and VIDEO INPUT switches as required.
❸ Press the PLAY button to start playback and determine the edit-in point using search functions (see page 13). Press the PAUSE/STILL button at the edit-in point.
❹ Press the PREROLL button. The tape will be rewound by about 10 seconds of program time and stop in the Pause mode.
❺ Press the EDIT START button. First the Play mode is engaged and then the recorder automatically switches to the Record mode at the predetermined edit-in point.
❻ To stop editing, press the EDIT STOP button.
  - In the Insert Edit mode, the Play mode will be entered.
  - In the Assemble Edit mode, the Record Pause mode will be entered.

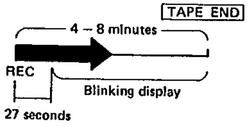
TAPE END WARNING

Tape end warning is given only during recording.

- The counter display starts blinking about 5 minutes before the end of the tape during recording.



- If recording is started with a cassette with a remaining tape time of only 5 minutes or so, the display starts blinking about 27 seconds after recording has started.



Notes:
- The timing of tape end warning differs slightly depending on the type of cassette.
- With an EC-30 or SE-C30 compact video cassette (in its adapter), tape end warning does not function.

WARNING DISPLAY

DIAGNOSTIC CODES

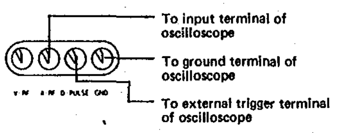
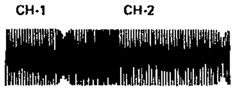
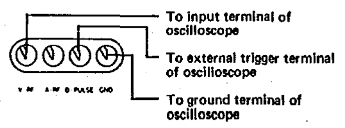
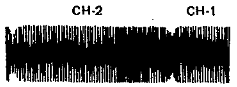
The WARNING display indicates various malfunctions and warnings by numerical codes. When the AUTO OFF indicator lights, it is necessary to turn the power off in order to recover the machine.

	Display		Cause of trouble or warning	Symptom/Operation
	Code	AUTO OFF LED		
Sensors	01	ON	Tape-end sensor LED is blown out.	The cassette is ejected. After ejection, cassette loading is not possible.
	02	ON	Moisture condensation.	The cassette is ejected. After ejection, the drum starts rotating and a cassette cannot be loaded. When condensation has been eliminated, the display turns off and cassette loading becomes possible.
	04	ON	Reel servo power insufficient.	All operations stop and all controls become inoperative.
	05	ON	CPU malfunctions.	All operations stop and all controls are inoperative.
	06	OFF	Playback of LP recordings was attempted.	The cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation to restored.
Loading mechanism	32	OFF	Tape cannot be loaded correctly.	The tape will be unloaded and the cassette ejected. Insert cassette again.
	33	ON	Tape cannot be unloaded.	All controls become inoperative.
	36	OFF	Tape cannot be half-loaded.	The cassette is ejected. After ejection, re-loading of a cassette is possible. When the display disappears, normal operation is restored.
	37	ON	Tape cannot be unloaded from the half-loaded position.	All operations stop and all controls are inoperative.
	39	ON	Unloading does not take place after "32".	All operations stop and all controls are inoperative.
Cassette compartment	40	OFF	Cassette compartment does not retract.	The cassette will be ejected. Insert it again.
	41	ON	Cassette compartment does not lift.	Retracting will be performed again. If able to complete retraction, controls become inoperative when the compartment reaches the fully retracted position.
	42	ON	After "41", retracting fails.	All controls become inoperative.

	Display		Cause of trouble or warning	Symptom/Operation
	Code	AUTO OFF LED		
Leader tape detection	56	OFF	Both tape beginning and end sensors are ON because of broken tape, etc.	The cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation is restored.
	57	OFF	Tape end sensor turns ON during half loading.	Rewind mode is engaged and, if the leader tape is detected within about 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation is restored.
	58	OFF	Tape beginning sensor turns ON during half loading.	FF mode is engaged and, if the leader tape is detected within about 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation is restored.
Rotating system	70	OFF	Drum motor stops.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.
	71	OFF	Capstan motor stops.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.
	72	OFF	Supply reel rotates abnormally.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.
	73	OFF	Take-up reel rotates abnormally.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.

TEST POINTS

The output signals from the Hi-Fi audio heads and video heads are available at the front panel test points. Connect an oscilloscope to these test points to check the performance and condition of the unit.

Connection	Items to be checked	Standard waveform
Hi-Fi audio head output  To input terminal of oscilloscope To ground terminal of oscilloscope To external trigger terminal of oscilloscope	• Tape-to-head contact • Tape running stability • Inferior RF after head replacement	• "+" triggered 
Video head output  To input terminal of oscilloscope To external trigger terminal of oscilloscope To ground terminal of oscilloscope	• Compatibility of tape pattern • Tape-to-head contact • Tape running stability • Tracking • Video signal recording level • Abnormality in RF Use a 10:1 probe.	• "+" triggered 

INTERNAL SWITCHES

Resetting internal switches enables some functions and circuit parameters to be changed. For resetting internal switches, consult a JVC dealer.

- This recorder has been preset to work with the RM-G810U Editing Control Unit. If the RM-86U Editing Control Unit is to be used, reset the DIP switches S1-1 and S1-2 on the SYSCON board to "ON".
- To prevent deterioration of the luminance signal frequency response with worn heads, or when using tapes that have different characteristics or have been over-played, this recorder incorporates an automatic equalizer (AUTO EQ) circuit which functions in the S-VHS mode. The reference signal to operate this circuit is added to one H line of the vertical blanking time. Prior to shipment, this recorder is preset to add the reference signal to line 11. If VITC (Vertical Interval Time Code), VITS (Vertical Interval Test Signal) or other signal is inserted in this line, these signals will be erased. If these signals are not to be erased, reset the DIP switches SW1-1, 1-2, and 1-3 on the FM R/P board, in order to defeat the AUTO EQ circuit or change the position of the reference signal.

Note:
The AUTO EQ circuit does not function if the reference signal reading position differs from the position of the reference signal added in recording. Also, it will malfunction if the VITC or VITS is recorded at the reference signal reading position.

RF 2H DELAY BOARD

Switch No.	Switch description	Preset	Function
SW3	Chroma enhancer	Up position	Up: Chroma enhancer ON. Down: Chroma enhancer OFF.

PB-Y BOARD

Switch No.	Switch description	Preset	Function
SW1	DOC switch	ON	OFF: With TBC switch "ON", the DOC does not fucntion. ON: With TBC switch "ON", both the TBC and DOC function.
SW2	V pulse switch	ON	OFF: No V pulse is added in the search mode.

FM R/P BOARD

<table>
<tr><th>Switch No.</th><th>Switch description</th><th>Preset</th><th>Function</th></tr>
<tr><td>SW2</td><td>AUTO EQ circuit switch</td><td>AUTO</td><td>AUTO: AUTO EQ functions.
MANU: AUTO EQ does not function.</td></tr>
<tr><td>SW1-1
SW1-2
SW1-3</td><td>Line select switch</td><td>OFF
ON
ON</td><td>Set according to the line to which the AUTO EQ reference signal is added.
<table>
<tr><th>Line</th><th>SW1-1</th><th>SW1-2</th><th>SW1-3</th></tr>
<tr><td>Defeat</td><td>ON</td><td>ON</td><td>ON</td></tr>
<tr><td>11</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td>12</td><td>ON</td><td>OFF</td><td>ON</td></tr>
<tr><td>13</td><td>ON</td><td>ON</td><td>OFF</td></tr>
<tr><td>14</td><td>OFF</td><td>OFF</td><td>ON</td></tr>
<tr><td>15</td><td>OFF</td><td>ON</td><td>OFF</td></tr>
<tr><td>16</td><td>ON</td><td>OFF</td><td>OFF</td></tr>
<tr><td>17</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
</table></td></tr>
<tr><td>SW1-4
SW1-5
SW1-6</td><td>Not used</td><td>OFF
OFF
OFF</td><td>Do not touch these switches.</td></tr>
<tr><td>SW1-7
SW1-8</td><td>Not used</td><td>OFF
OFF</td><td>Do not touch these switches.</td></tr>
</table>

REC-C BOARD

Switch No.	Switch description	Preset	Function
SW-1	For adjustment	270°	Do not touch this switch.

SYSCON BOARD

<table>
<tr><th>Switch No.</th><th>Switch description</th><th>Preset</th><th>Function</th></tr>
<tr><td>S1-1</td><td>Preroll speed</td><td>OFF</td><td>ON: Maximum preroll speed in editing is 4 times normal, and the RED LED remains lit while the backspaced section is being played from the Record-Pause mode.
OFF: Maximum preroll speed in editing is 6 times normal, and the RED LED blinks while the backspaced section is being played.</td></tr>
<tr><td>S1-2</td><td>FF/REW speed</td><td>OFF</td><td>ON: Maximum FF/REW speed is 20 times normal.
OFF: Maximum FF/REW speed is 40 times normal.</td></tr>
<tr><td>S1-3</td><td>Mode after ending an insert edit</td><td>OFF</td><td>ON: Prerolls when the EDIT STOP button is pressed during insert editing.
OFF: Enters the Play mode when the EDIT STOP button is pressed during insert editing.</td></tr>
<tr><td>S1-4</td><td>SUB SYNC switch</td><td>ON</td><td>ON: Locks to external sync signal during playback, and locks to input video signal during recording.</td></tr>
<tr><td>S1-5</td><td>Edit zero stop</td><td>OFF</td><td>ON: Editing stops at counter "zero" and then the tape prerolls.</td></tr>
<tr><td>S1-6</td><td>Insert with no CTL</td><td>OFF</td><td>ON: Insert editing is possible even on segments with no control pulses.</td></tr>
<tr><td>S1-7</td><td>Search dial select</td><td>OFF</td><td>ON: Enters the FF (REW) mode when the search dial is positioned to either extreme.</td></tr>
<tr><td>S1-8</td><td>Full-load stop</td><td>OFF</td><td>ON: The tape is fully loaded in the Stop mode.</td></tr>
<tr><td>S2-1</td><td>EE/PB</td><td>OFF</td><td>ON: EE video and audio are output during preroll except in recording.</td></tr>
<tr><td>S2-2</td><td>Warning disable</td><td>OFF</td><td>ON: Warning "06", "70" to "73" are not available.</td></tr>
<tr><td>S2-3</td><td>Auto rewind</td><td>OFF</td><td>ON: Auto rewind functions.</td></tr>
<tr><td>S2-4</td><td>Long still</td><td>OFF</td><td>ON: Long still function is not available.</td></tr>
<tr><td>S2-5</td><td>Record prohibit</td><td>OFF</td><td>ON: Recording is not possible even with cassettes with safety tab in place.</td></tr>
<tr><td>S2-6</td><td>Not used</td><td>OFF</td><td>Be sure to leave this switch in the OFF position.</td></tr>
<tr><td>S2-7</td><td>Direct eject</td><td>OFF</td><td>ON: Eject is possible from all modes.</td></tr>
<tr><td>S2-8</td><td>Direct search/jog</td><td>OFF</td><td>ON: Search mode can only be entered by pressing the SEARCH button.</td></tr>
<tr><td>S3-1
S3-2
S3-3</td><td>Not used</td><td>OFF
OFF
OFF</td><td></td></tr>
<tr><td>S3-4</td><td>RM-88 switch</td><td>OFF</td><td>Set to ON when the RM-88 is connected.</td></tr>
<tr><td>S3-5
S3-6
S3-7</td><td>Preroll time</td><td>ON
OFF
ON</td><td>Determine preroll time.
<table>
<tr><th>Time (sec)</th><th>2.4</th><th>0.5</th><th>3.0</th><th>5.0</th><th>7.0</th><th>10.0</th><th>15.0</th></tr>
<tr><td>S3-5</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td></tr>
<tr><td>S3-6</td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td></tr>
<tr><td>S3-7</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td></tr>
</table></td></tr>
<tr><td>S3-8</td><td>NTSC/PAL</td><td>OFF</td><td>Be sure to leave this switch in the OFF (PAL) position.</td></tr>
</table>

SPECIFICATIONS

GENERAL

Format : VHS PAL/S-VHS Europe standard
Power requirement : AC 110/127/220/240 V∿, 50/60 Hz
Power consumption : 105 watts (Max. 115 watts with the Automatic Editing Control Unit, DC 12 V, 550 mA)
Dimensions : 42.9(W) x 18.8(H) x 51.4(D) cm
Weight : 25 kg
Operating temperature : 5°C to 40°C
Storage temperature : –20° C to 60°C
Tape speed : 23.39 mm/sec
Recording & Playback time : Max. 180 min. with JVC E-180/SE-180
Fast forward/Rewind time : Less than 4.5 min. for 180 min. tape
Search speed : Dial Search FWD/REW X ±1/30 to X ±10

VIDEO

Recording and playback : Rotary four-head, helical scanning system
Luminance: FM recording
Colour signal: Phase shift, converted sub-carrier direct recording
Video signal system : PAL-type colour signal S-VHS Europe type Y/C signal
Input
Line : 0.5 to 2.0 Vp-p, 75 ohms, unbalanced
YC627 Y: 1.0 Vp-p, 1 k-ohms, unbalanced
C: 0.9 Vp-p, 1 k-ohms, unbalanced
YC443 Y: 1.0 Vp-p, 75 ohms, unbalanced
C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Output
Line : 1.0 Vp-p, 75 ohms, unbalanced
YC627 Y: 1.0 Vp-p, 1 k-ohms, unbalanced
C: 0.9 Vp-p, 1 k-ohms, unbalanced
YC443 Y: 1.0 Vp-p, 75 ohms, unbalanced
C: 0.3 V-p, 75 ohms, unbalanced (Burst)
Signal-to-noise ratio : More than 45 dB
Horizontal resolution : More than 400 lines (S-VHS)
More than 250 lines (VHS colour)
External SYNC input : 0.5 to 4.0 Vp-p, 75 ohms, unbalanced
RF output (DOC) : 0.5 Vp-p, 75 ohms, unbalanced

AUDIO

Input
Line : -6/0/+4 dBs, 10 k-ohms/600 ohms switchable, balanced (Hi-Fi/Normal)
Mic : -67 dBs, 10 k-ohms, unbalanced
Output
Line : -6/0/+4 dBs, Low impedance, balanced (Hi-Fi/Normal)
Headphone : ∞ to –17 dBs, 8 ohms
Monitor : -6 dBs Low impedance, unbalanced
Signal-to-noise ratio : More than 43 dB (NR-off) (at 3 % distortion) (Normal)
Dynamic range : More than 87 dB (Hi-Fi)
Frequency response : 20 to 20,000 Hz (Hi-Fi)
40 to 12,000 Hz (Normal)
Wow and flutter : Less than 0.005 % WRMS (Hi-Fi)
Less than 0.15 % WRMS (Normal)
Time code
Input : 0 ±6 dBs, 10 k-ohms
Output : 0 ±3 dBs, Low impedance

CONNECTORS

Video
Line input : BNC-type connector
Line output : BNC-type connectors
YC443/YC627 input/output : 7-pin connectors
Audio
Hi-Fi input/output : XLR connectors
Normal input/output : XLR connectors
Monitor output : RCA-pin connector
Microphones : 6 mm jacks
Headphones : 6 mm jack
Remote control : 45-pin connector
Accessories : 7-pin cable
: Switch cover

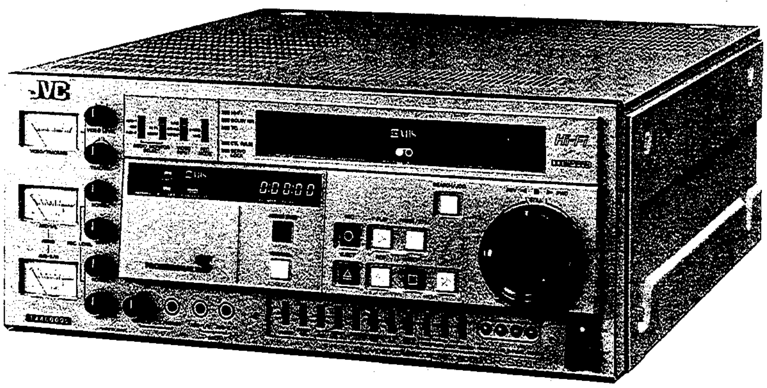
INSTRUCTIONS

JVC

BR-S611E

VIDEO CASSETTE RECORDER
MAGNETOSCOPE A CASSETTE
VIDEOCASSETTENRECORDER

S VHS 625 VHS PAL Hi-Fi



PGD30002-159-01

Warning Notice
FOR YOUR SAFETY (Australia)

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

IMPORTANT (In the United Kingdom)
Mains Supply (AC 240 V∿)
WARNING – THIS APPARATUS MUST BE EARTHED

The wires in this mains lead are coloured in accordance with the following code;

GREEN-and-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows. The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or which is coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

POWER SYSTEM

Connection to the mains supply

The operating voltage of this set is preset to 240 V∿ at the factory.

Before connecting to mains, check that the voltage selector on the rear panel is set to the same voltage as your local mains supply.

Adapting to local power line

This set operates on either 110, 127, 220 or 240 V∿.

If the preset voltage is different from the power line voltage in your area, reset the voltage selector by inserting a screwdriver into the slot of the voltage selector and turning it until the correct voltage is displayed.

This equipment has been produced to comply with Directive number 82/499/EEC.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Note: The rating plate and the safety caution are on the rear of the unit.

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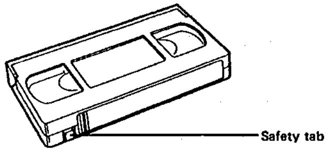
PRECAUTIONS

Handling and storage

- Avoid using the recorder under the following conditions:
  - – extremely hot, cold or humid places,
  - – dusty places,
  - – near appliances generating strong magnetic fields,
  - – places subject to vibrations, and
  - – poorly ventilated places.
- Be careful of moisture condensation.
  Avoid using the recorder immediately after moving it from a cold place to a warm place or soon after heating a room which was cold. The water vapour in warm air will condense on the still-cold video head drum and tape guides and may cause damage to the tape and the recorder.
- Handle the recorder carefully.
  - Do not block the ventilation openings.
  - Do not place anything heavy on the recorder.
  - Do not place anything which might spill and cause trouble on the top cover of the recorder.
  - Use in horizontal (flat) position only.
- In case of transportation,
  - Avoid violent shocks to the recorder during packing and transportation.
  - Before packing, be sure to remove the cassette from the recorder.

Video cassettes

- This recorder employs S-VHS and VHS cassettes only.
  S-VHS: SE-180 for 180 minutes, SE-120 for 120 minutes and SE-60 for 60 minutes of recording.
  VHS: E-240 for 240 minutes, E-180 for 180 minutes, E-120 for 120 minutes, E-90 for 90 minutes, E-60 for 60 minutes and E-30 for 30 minutes of recording.
- Video cassettes are equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording cannot be performed. If you wish to record on a cassette whose tab has already been removed, use adhesive tape to block the hole.



- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or magnet) and dusty places.
- Place the cassettes in cassette cases and position vertically.

The previous S-VHS logo mark has been changed to S-VHS. Regardless of this change in the official logo, the S-VHS system represented by either logo, new or old, remains completely identical, and therefore products carrying either logo can be used interchangeably.

FEATURES

High-quality video recording and playback
Conforming to the S-VHS format which offers a picture with well over 400 lines of horizontal resolution, the BR-S611E employs the Standard Play mode only to ensure the highest possible basic performance and the best possible overall picture quality, as required from an editing recorder.

Improved picture quality
Newly developed technologies for picture improvement include: a chroma enhancer (Faroudja circuit) to achieve sharp colour pictures with greatly reduced colour spreading at image borders; a CNR system to reduce chroma noise; an AUTO EQ circuit to compensate for deterioration of luminance signal frequency response due to over-played tapes, worn heads, or different tape characteristics; an improved drum motor to reduce picture jitter and colour snaking.

Editing operability
The BR-S611E has 45-pin parallel remote control connector, so that it can be used for the feeder recorder with the RM-86U/RM-G810U Editing Controller.

Audio dub function
The BR-S611E allows the normal audio channel-2 soundtrack to be replaced, so that a narration etc. can be added to a previously recorded tape.

Heavy-duty mechanism
Independent direct-drive motors are provided for the head drum, capstan and reels. For higher reliability and durability, all components are mounted on a heavy-duty aluminum diecast chassis.

Separate Y/C input/output connectors
In addition to the composite video signal, the luminance (Y) and chroma (C) signals can be input and output as separated signals, thereby producing clear colour pictures with minimized colour noise. To suppress deterioration of colour signals in dubbing, and thereby improve the overall quality of colour dubs, the Y/C 627 mode is also available.

Variable-speed dial search and jog control
Convenient, easy-to-operate, concentric control dials are provided for fast and accurate location of edit points. Turning the outer dial varies the tape speed from still to 10 times normal in either direction. The inner dial functions as a jog control which regulates the tape movement in either direction, accurately responding to the speed with which the dial is turned.

Hi-Fi VHS audio with dynamic range of more than 87 dB
A pair of rotary FM-audio heads is provided exclusively for the recording and playback of Hi-Fi audio signals with an extended frequency response and dynamic range. Separate input terminals are provided for Hi-Fi and normal audio so that different soundtracks can be recorded on these tracks. The normal audio is two-channel with the Dolby* noise reduction system.

*Dolby noise reduction system under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

Manual audio/video level control
The recording level of the video and audio signals can be controlled manually by referring to independent level meters. The video level meter also serves as a tracking meter during playback.

Newly developed auto-cleaning mechanism
The video and Hi-Fi audio heads are automatically cleaned when the tape is loaded or unloaded.

Concentrated indications of recorder status settings
Easy-to-see LED indicators are provided on the front panel for servo lock, CTL pulse, time code, Dolby NR and Hi-Fi Audio.

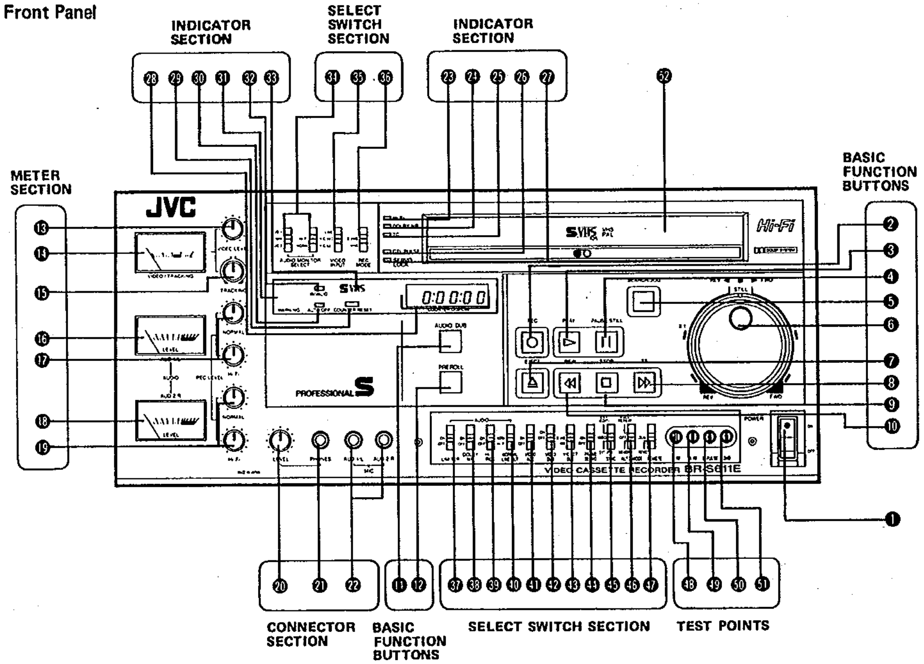
Front panel test points
To facilitate alignment, test points for the video head and Hi-Fi audio head output signals are provided on the front panel.

Half-loading mechanism
A new tape loading mechanism, called "half-loading", is employed to enable CTL pulses to be read even in the FF and REW modes.

Other features
- Balanced audio inputs and outputs for Hi-Fi and normal audio
- External sync and RF output (for DOC) connectors
- Self-illuminated function buttons
- Automatic repeat playback and counter Memory function
- 19-Inch EIA rack mounting possible
- Selectable audio monitor output (AUD-1/AUD-2/MIX/Hi-Fi/Normal)
- Digital time counter in hours, minutes and seconds
- Framing servo on/off switch
- Headphone jack with adjustable output level
- Recording and playback of EBU time code
- Timer recording and playback
- Hour meter showing up to 1000 hours
- Two VIDEO LINE OUT connectors and two separate Y/C IN/OUT (Y/C 627 & Y/C 443) connectors
- Hi-Fi audio output and Hi-Fi/normal switchable audio output connectors
- Hi-Fi audio recording on/off switch
- Microprocessor-controlled diagnostic warning system for detection and indication of electronic and mechanical malfunctions

CONTROLS AND CONNECTORS

Front Panel



BASIC FUNCTION BUTTONS

① POWER switch
Set to ON to turn the power on. The indicator will light and the level meters will be illuminated.

② Record button (REC)
Press together with the PLAY button for recording. Audio is recorded on both channels, if there are signals for them. The REC and PLAY buttons will remain illuminated during recording. When the REC button is pressed during playback, the monitor screen switches from the playback picture to the E-E mode picture, allowing you to monitor the signals applied to the input terminals.

③ PLAY button
Press to start playback. The PLAY button will be illuminated. Press together with the REC button to start recording.

④ PAUSE/STILL button
Press to stop the tape temporarily during recording or playback. The button will be illuminated. To release the Pause or Still mode, press any button except EJECT corresponding to the mode you wish to enter next.

⑤ SEARCH/JOG button
Pressing this button enables the rotary search/jog dials. The button will be illuminated.

⑥ Rotary search/jog dials
Constructed in the form of dual concentric controls, the outer control functions as a search dial and the inner one functions as a jog dial.
Search dial: When the dial is set to STILL (centre position), the Still mode is entered with the STILL indicator lit. When the dial is turned clockwise toward FWD, forward playback takes place at a speed corresponding to the dial setting, with the FWD indicator lit. When the dial is turned counterclockwise toward REV, reverse playback takes place at a speed corresponding to the dial setting, with the REV indicator lit. The search speed is continuously variable between 1/30 and 10 times normal in both directions. If the control mode is changed by any function button, the dial setting remains unchanged and the corresponding speed is instantly engaged by pressing the SEARCH/JOG button.
Jog dial: Use the jog dial to view the tape manually; the tape moves at a speed with which this dial is turned. When the dial is turned clockwise, forward playback takes place, and vice versa. When the dial is stationary, the picture is still. The jog mode cannot be used in the Edit or Record mode.

⑦ **EJECT button**
Press to eject the cassette. This button can be pressed in the Stop mode or immediately after the STOP button has been pressed.

⑧ **Fast Forward button (FF)**
Press to fast forward the tape. While the tape is being fast forwarded, the FF button will remain illuminated. This button can be pressed in any mode except Record, or Eject. To release the Fast Forward mode, press the PLAY, STOP or REW button depending on the mode you want to enter next. Pressing this button in the Play or Search mode enables high-speed playback at about 10 times normal speed in the forward direction. During search the PLAY and FF buttons will remain illuminated.

⑨ **STOP button**
Press to stop the tape. When the STOP button is pressed, the tape is unloaded and then the Stop mode is engaged. The STOP button blinks during tape unloading and remains lit upon completion of unloading.

⑩ **Rewind button (REW)**
Press to rewind the tape. While the tape is being rewound, the REW button will remain illuminated. This button can be pressed in any mode except Record or Eject. To release the Rewind mode, press the PLAY, STOP or FF button depending on the mode you want to enter next. Pressing this button in the Play or Search mode enables high-speed playback at about 10 times normal speed in the reverse direction. During search the PLAY and REW buttons will remain illuminated.

⑪ **AUDIO-DUB button**
NORMAL AUDIO channel-2 soundtrack can be dubbed. For audio dubbing, press this button together with the PLAY button.

⑫ **PREROLL button**
Operative in the Still mode. When this button is pressed after the edit point has been determined by pressing the PAUSE/STILL button, the tape is rewound by about 10 seconds of program time and enters the Edit Standby mode. (The PLAY and PAUSE/STILL buttons will be illuminated.) To cancel this mode, press the PLAY button.

METER SECTION

⑬ **VIDEO LEVEL control**
To adjust the video recording level manually, set the VIDEO AGC switch ㊶ to OFF and turn this control so that the meter ⑭ deflects into the green area.

⑭ **VIDEO/TRACKING meter**
Functions as a video level meter during recording and as a tracking meter during playback.

⑮ **TRACKING control**
To remove noise bars or to correct Hi-Fi tracking during playback, turn this control so that the meter ⑭ makes its maximum deflection.

⑯ **AUDIO-1/LEFT AUDIO level meter**
Indicates the recording level of the normal audio-1 or Hi-Fi left-channel signal during recording, the playback signal during playback or the E-E signal in any other mode. Switching between normal and Hi-Fi is done with the AUDIO MONITOR SELECT switch.

⑰ **NORMAL/Hi-Fi (AUD-1/LEFT) REC LEVEL controls**
To adjust the normal audio-1 or Hi-Fi left-channel signal, turn the corresponding control so that the meter ⑯ deflects to "0" with the loudest signal.

⑱ **AUDIO-2/RIGHT AUDIO level meter**
Indicates the recording level of the normal audio-2 or Hi-Fi right-channel signal during recording, the playback signal during playback or the E-E signal in any other mode.

⑲ **NORMAL/Hi-Fi (AUD-2/RIGHT) REC LEVEL controls**
To adjust the normal audio-2 or Hi-Fi right-channel signal, turn the corresponding control so that the meter ⑱ deflects to "0" with the loudest signal.

CONNECTOR SECTION

⑳ **PHONES LEVEL control**
Adjusts the output level of the PHONES jack.

㉑ **PHONES jack**
Connect a set of headphones for monitoring the sound being recorded.

㉒ **MIC jacks (AUD-1/LEFT, AUD-2/RIGHT)**
Connect microphones to switch the input signal from line to microphone.

INDICATOR SECTION

㉓ **Hi-Fi indicator**
Lights when Hi-Fi audio signals are being recorded.

㉔ **Dolby NR indicator**
Lights when the built-in Dolby* noise reduction system is activated.

㉕ **Time Code indicator (TC)**
Remains lit when the rear panel TIME CODE/AUDIO select switch ㉓ is in the TIME CODE position.
Note: When the indicator is lit, the NORMAL audio-2 signal is muted.

㉖ **CTL PULSE indicator**
Lights when a tape with no control pulse recorded is played back.

㉗ **SERVO LOCK indicator**
Lights when the servo system is locked for normal operation.

㉘ **Realtime tape counter**
Shows tape time in hours, minutes and seconds by counting the number of CTL pulses. This tape counter does not function when a tape with no CTL pulses is being played back. The display starts blinking 5 to 10 minutes before the tape end during recording.

㉙ **COUNTER RESET button**
Press to reset the tape counter to zero.

㉚ **AUTO OFF indicator**
If the tape running is in some way incorrect, this indicator will light.

㉛ **WARNING display**
Two-digit numbers indicate various malfunctions for easy troubleshooting. For more details, refer to pages 18 and 19.

㉜ **INVALID indicator**
Lights when the REC and PLAY buttons are pressed in the S-VHS recording mode with a standard VHS tape loaded. No change in mode will take place, but the previous operation will continue.

㉝ **S-VHS indicator**
Lights when the S-VHS recording mode is selected. In playback of S-VHS recordings, lights automatically.
Also lights when playing back the blank section of VHS tapes.

SELECT SWITCH SECTION

㉞ **AUDIO MONITOR SELECT switches**
These switches select the audio output available from the PHONES jack and the AUDIO MONITOR connector. The Hi-Fi/NORMAL switch also functions to switch the audio level meters between Hi-Fi and NORMAL.
Hi-Fi: To monitor the Hi-Fi audio signals.
NORMAL: To monitor the NORMAL audio signals.
AUD-1/LEFT: To monitor the NORMAL audio-1 or Hi-Fi left-channel signal.
MIX: To monitor a mixture of both channels.
AUD-2/RIGHT: To monitor the NORMAL audio-2 or Hi-Fi right-channel signal.

Note:
The output from the AUDIO OUT NORMAL RIGHT connector is shorted if the TC indicator ㉕ is lit.

㉟ **VIDEO INPUT select switch**
Selects the video input signal applied to the VIDEO IN LINE, YC443 or YC627 connector.
LINE: Set to this position when recording the composite video signal applied to the VIDEO IN LINE connector.
YC443: Set to this position when recording the separated Y/C signals conforming to the YC443 system (S-VHS signal) applied to the YC443 connector.
YC627: Set to this position when recording the separated Y/C signals conforming to the YC627 system (Y and down converted C signals) coming from the YC627 OUT connector applied to the YC627 connector.

㊱ **REC MODE select switch**
S-VHS : To record in the S-VHS mode (SP).
VHS : To record in the VHS mode (SP).

㊲ **AUDIO LIMITER switch**
Set to ON to activate the built-in audio limiter circuit. Manual level control is possible even when the limiter circuit is on.

㊳ **Audio noise reduction switch (NR)**
Set to ON to activate the built-in Dolby* noise reduction system for the NORMAL audio signal.

㊴ **Hi-Fi REC select switch**
ON: Set to ON to record the Hi-Fi audio signal.
OFF: Set to OFF when recording the Hi-Fi audio signal is not desired.

㊵ **NORMAL LINE OUT select switch**
Selects the output signal from the AUDIO OUT NORM/Hi-Fi connectors.
NORM: Set to this position to output the normal audio signals from the AUDIO OUT NORM/Hi-Fi connectors.
Hi-Fi: Set to this position to output the Hi-Fi audio signals from the AUDIO OUT NORM/Hi-Fi connectors.

㊶ **VIDEO AGC switch**
Set to ON to activate the built-in video AGC circuit.

㊷ **VIDEO DUB switch**
OFF: Normally set to this position. The detail enhancer (only VHS mode) circuit will be ON in recording, and the noise reduction circuit will be ON in playback.
ON: In this position, the detail enhancer (only VHS mode) circuit is OFF in recording, and the noise reduction effect is reduced in playback. Set the switch to this position when using the BR-S611E as the player in dubbing.

㊸ **YC627 OUT select switch**
S-VHS: In YC627 dubbing with an S-VHS recorder (BR-S810E/BR-S610E/BR-S811E/BR-S611E) in the S-VHS mode, set the player to this position.
VHS: In YC627 dubbing with a VHS recorder (BR-8600E/BR-6600E) or with an S-VHS recorder (BR-S810E/BR-S610E/BR-S811E/BR-S611E) in the VHS mode, set to this position.

㊹ **FRAME SERVO switch**
Normally set this switch to ON. When tapes containing random-interlaced or low-S/N video signals are used, set to OFF.

㊺ **SYNC select switch**
Selects between different reference sync signals for the servo system during recording and playback.
EXT (REC): Set to this position when using the BR-S611E as a recorder in the external sync mode.
EXT (PB): Set to this position when using the BR-S611E as a player in the external sync mode.
VIDEO: Set to this position when recording or playing back using the input video signal as a reference signal.
For more information, refer to "REFERENCE SYNC SIGNALS on page 15.

㊻ **AUTO MODE switch**
Selects between different automatic operations.
FULL REPEAT: For repeated playback from the beginning of the tape.
OFF: No automatic operation.
MEMORY: In the Rewind or Fast Forward mode, the tape will stop automatically at the counter reading of "0" or a few frames away from "0".

㊼ **REMOTE switch**
LOCAL: Set to this position when the BR-S611E is to be controlled with its own function buttons. (With this switch set to the LOCAL position, the remote control unit connected to the rear panel 45-pin REMOTE connector will not function.)
REMOTE: Set to this position when the BR-S611E is to be remote-controlled with the remote control unit connected to the 45-pin REMOTE connector. (No function buttons of the recorder except STOP and EJECT will function when this switch is set to the REMOTE position.)

TEST POINTS

㊽ **V-RF test point**
The video head signal is output in the form of an FM signal during playback, allowing clogged or worn heads to be detected.

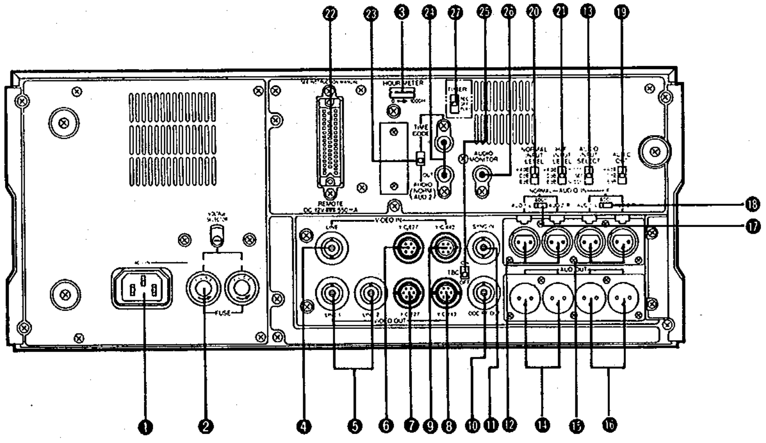
㊾ **A-RF test point**
The Hi-Fi audio signal is output in the form of an FM signal during playback, allowing clogged or worn heads to be detected.

㊿ **D-PULSE pin**
Connect to the external trigger terminal of an oscilloscope for a sync signal.

(51) **GND pin**
Connect to the ground terminal of an oscilloscope.

(52) **Cassette loading slot**
With the POWER switch set to ON, insert a video cassette with its labelled edge facing toward you. The cassette carriage will automatically take control and retract the cassette into the correct loaded position.

Rear Panel



① **AC input socket (AC IN)**
Connect to 110/127/220/240 V AC, 50/60 Hz power outlet.

② **FUSE holder**

③ **HOUR METER**
Indicates the total operating time. After 1,000 hours of operation, the red line moves to the top end of the scale.

④ **VIDEO IN LINE connector**
Input connector for the composite video signal.

⑤ **VIDEO OUT LINE connectors**
Output connectors for the composite video signal. The same signal is output via these connectors in parallel.

⑥ **VIDEO IN YC627 connector**
Receives the Y/C627 signal (separated luminance and down converted signals) via a Y/C cable.

⑦ **VIDEO OUT YC627 connector**
Delivers the Y/C627 signal via a Y/C cable.

⑧ **VIDEO OUT YC443 connector**
Delivers the Y/C443 signal to be monitored. Connect to a monitor equipped with an S-VIDEO input terminal using an optional Y/C cable.

⑨ **VIDEO IN YC443 connector**
Receives the Y/C443 signal (separated luminance and chroma signals) via a Y/C cable.

⑩ **DOC RF OUT connector**
For connection to a DOC (Dropout Compensator) or the DOC input terminal of a time base corrector.

⑪ **External sync signal input connector (SYNC IN)**
Accepts an external reference sync signal when the recorder is to be operated in the external sync mode. The external sync signal can be a composite sync or composite video signal.

⑫ **AUDIO IN NORMAL connectors (AUD-1/L, AUD-2/R)**
Normal audio input connectors for Audio-1 (Left) and Audio-2 (Right).

⑬ **AUDIO INPUT SELECT switch**
H COM: Set to this position to record the audio signals being input to the AUDIO IN Hi-Fi connectors onto both the Hi-Fi and Normal audio tracks. "Hi-Fi Combined" recording.
SEP: Set to this position to record the audio signals being input to the AUDIO IN Hi-Fi connectors onto the Hi-Fi audio track, and to the AUDIO IN NORMAL connectors onto the Normal audio track. "Separate" recording.
N COM: Set to this position to record the audio signals being input to the AUDIO IN NORMAL connectors onto both the Hi-Fi and Normal audio tracks. "Normal Combined" recording.

⑭ **AUDIO OUT NORM/Hi-Fi connectors (AUD-1/L, AUD-2/R)**
Normal audio or Hi-Fi Audio output connectors for Audio-1 (Left) and Audio-2 (Right) depending on the setting of the front panel NORMAL LINE OUT select switch.

⑮ **AUDIO IN Hi-Fi connectors (AUD-1/L, AUD-2/R)**
Hi-Fi audio input connectors for Audio-1 (Left) and Audio-2 (Right).

⑯ **AUDIO OUT Hi-Fi connectors (AUD-1/L, AUD-2/R)**
Hi-Fi audio output connectors for Audio-1 (Left) and Audio-2 (Right).

⑰ **NORMAL AUDIO input impedance switch**
Select either 10 k-ohms or 600-ohms according to the impedance level of the audio input signal. Set to ON for 600-ohms balanced audio input signals and to OFF for high impedance (10 k-ohms) signals. The level is switched for both audio channels simultaneously.

⑱ **Hi-Fi AUDIO input impedance switch**
Select either 10 k-ohms or 600-ohms according to the impedance level of the audio input signal. Set to ON for 600-ohms balanced audio input signals and to OFF for high impedance (10 k-ohms) signals. The level is switched for both audio channels simultaneously.

⑲ **AUDIO output level select switch**
Select -6 dB, 0 dB or +4 dB according to the level of the audio output signal. The level is switched for both Normal/Hi-Fi and Left/Right audio channels simultaneously.

⑳ **NORMAL AUDIO input level select switch**
Select -6 dB, 0 dB or +4 dB according to the level of the Normal audio input signal. The level is switched for both Left/Right audio channels simultaneously.

㉑ **Hi-Fi AUDIO input level select switch**
Select -6 dB, 0 dB or +4 dB according to the level of the Hi-Fi audio input signal. The level is switched for both Left/Right audio channels simultaneously.

㉒ **REMOTE control connector**
Connect a JVC 45-pin remote control unit.

㉓ **TIME CODE/AUDIO select switch**
Set to TIME CODE to record the time code on the Normal audio track channel 2. Normally set this switch to AUDIO.

㉔ **TIME CODE IN/OUT connectors**
Connect a time code generator to the IN connector when you want to record the EBU time code. The TIME CODE/AUDIO select switch must be set to TIME CODE. To obtain the time code for editing, connect a time code reader to the OUT connector.

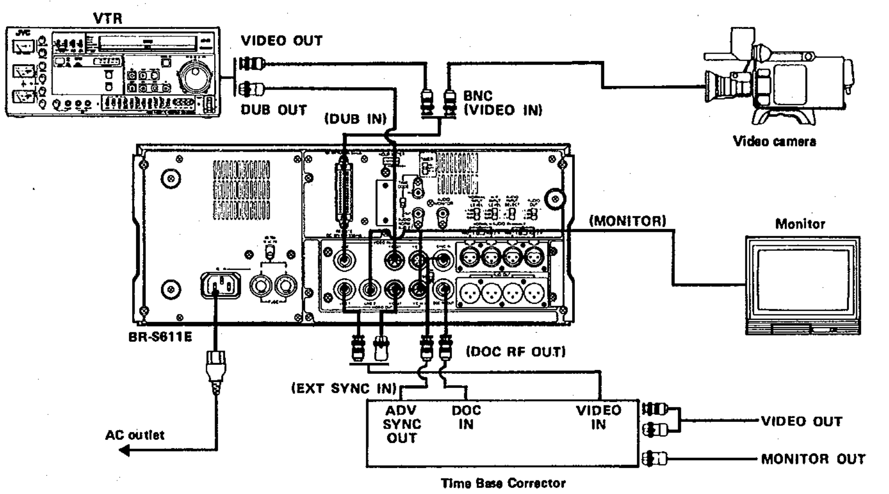
㉕ **Time base corrector switch (TBC)**
Normally set to OFF. When you use a TBC, set it to ON. Also set the SYNC select switch to EXT (PB).

㉖ **AUDIO MONITOR connector**
The audio signal selected by the AUDIO MONITOR SELECT switches is available via this connector.

㉗ **TIMER select switch**
Power can be switched on using an ordinary timer.
REC: The BR-S611E starts recording when the preset time is reached, and at the end of the tape, enters the Rewind mode automatically and stops at the beginning of the tape.
OFF: No timer operation.
PLAY: The BR-S611E starts playing back when the preset time is reached, and at the end of the tape, enters the Rewind mode automatically and stops at the beginning of the tape.

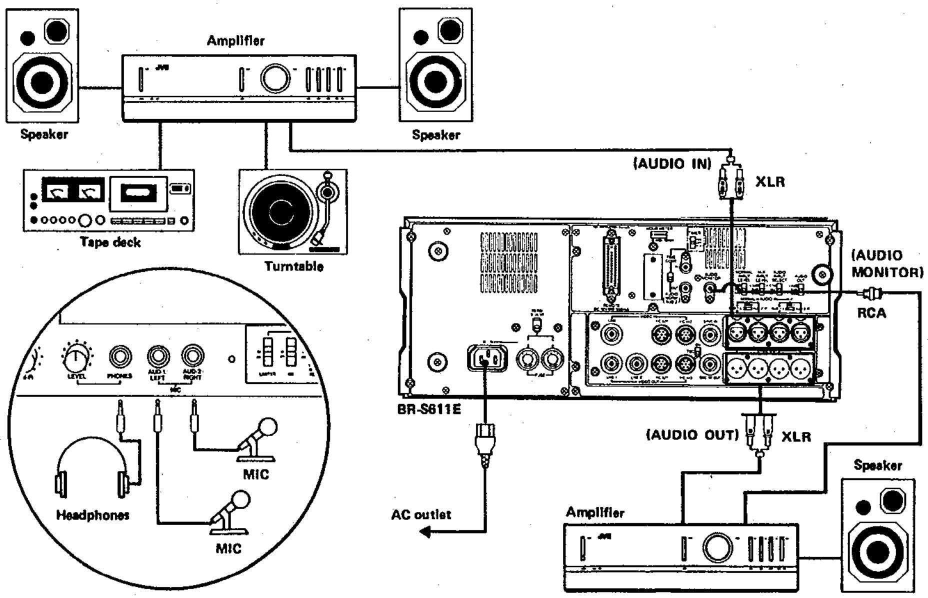
CONNECTIONS

VIDEO EQUIPMENT CONNECTION

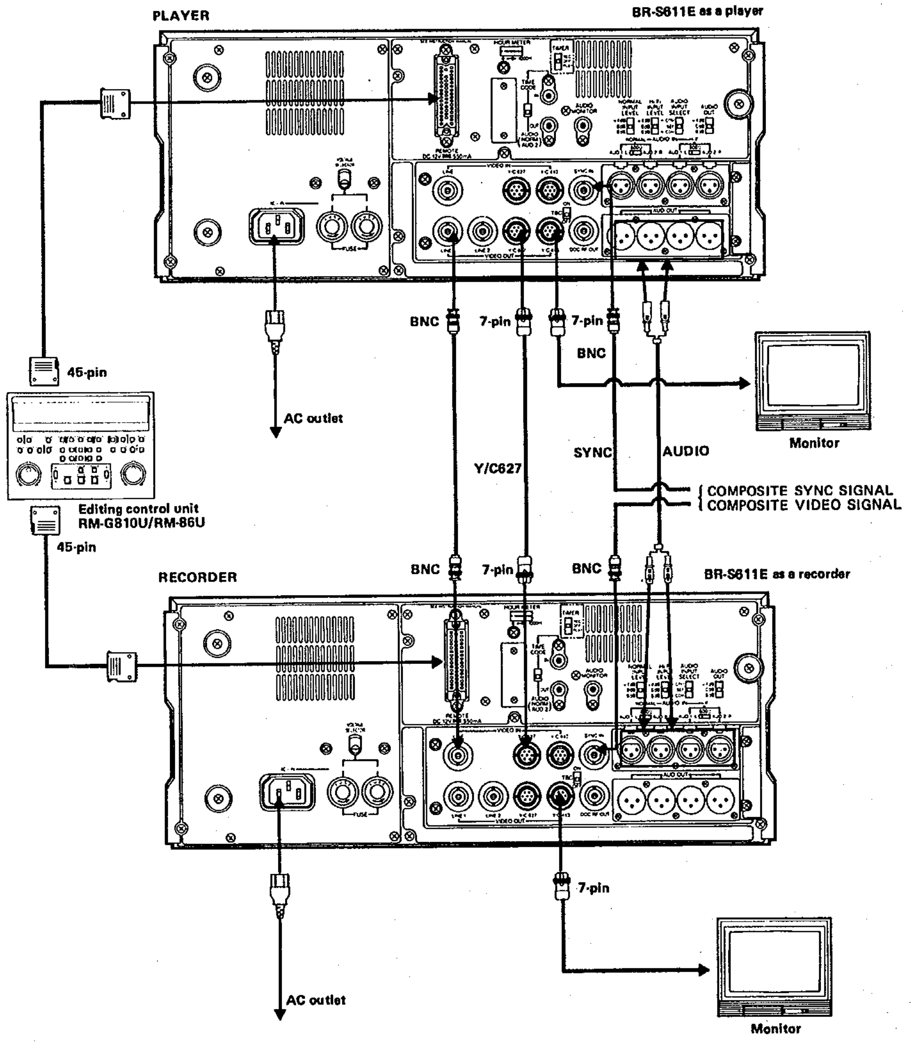

VTR
VIDEO OUT
DUB OUT
(DUB IN)
BNC
(VIDEO IN)
Video camera
(MONITOR)
Monitor
BR-S611E
(DOC RF OUT)
(EXT SYNC IN)
ADV SYNC OUT
DOC IN
VIDEO IN
VIDEO OUT
MONITOR OUT
AC outlet

Time Base Corrector

AUDIO EQUIPMENT CONNECTION

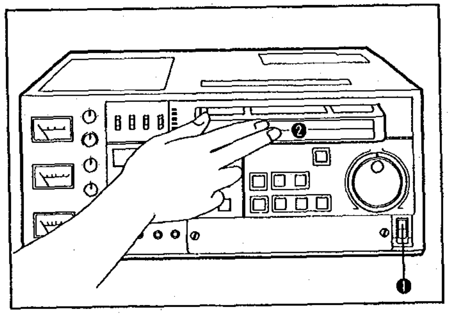

Speaker
Amplifier
Speaker
Tape deck
Turntable
(AUDIO IN)
XLR
(AUDIO MONITOR)
RCA
BR-S611E
(AUDIO OUT)
XLR
Speaker
Amplifier
AC outlet
Headphones
MIC
MIC

CONNECTION FOR TAPE-TO-TAPE EDITING


PLAYER
BR-S611E as a player
BNC
7-pin
7-pin
BNC
45-pin
AC outlet
Monitor
Y/C627
SYNC
AUDIO
{ COMPOSITE SYNC SIGNAL
{ COMPOSITE VIDEO SIGNAL
Editing control unit
RM-G810U/RM-86U
45-pin
RECORDER
BNC
7-pin
BNC
BR-S611E as a recorder
7-pin
AC outlet
Monitor

LOADING AND UNLOADING A VIDEO CASSETTE

LOADING

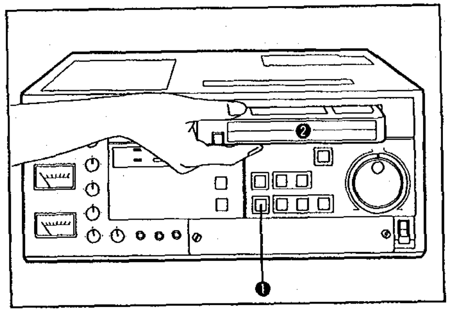


❶ Set the POWER switch to ON. The POWER indicator will light.

❷ Insert a cassette with its labelled side facing you. The cassette will automatically be retracted and loaded in the correct position.
- With a cassette inserted, the red door flap appears and displays the ●○ mark to indicate "cassette inserted".
- The STOP button lamp will illuminate.
- The automatic loading mechanism will operate only when the cassette is inserted correctly.
- If loading does not result in positioning the cassette correctly, it will automatically be ejected after about 6 seconds.

Note:
After unpacking your new recorder the red door flap with the "cassette inserted" mark may be displayed. This is not due to any defect of the unit. Simply insert a cassette. After the first loading/unloading cycle, the door will function properly to show the blue flap when no cassette is inserted and the red flap when a cassette is inserted.

UNLOADING

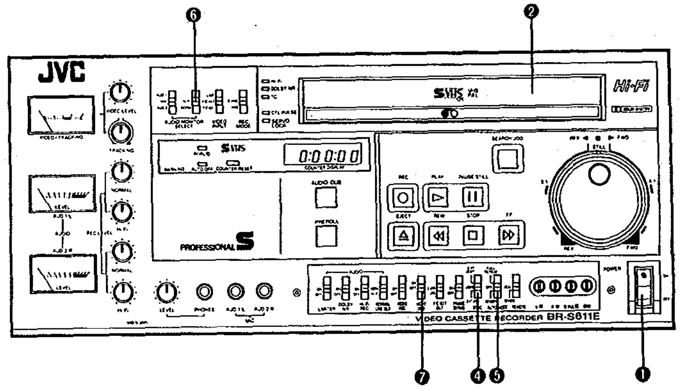


❶ Press the EJECT button in the Stop mode. The cassette will automatically be ejected.

❷ Remove the cassette from the cassette loading slot.
- The EJECT button can be pressed immediately after the STOP button has been pressed. The logic circuit will memorize the sequence; first setting the recorder in the Stop mode and then automatically changing it to the Eject mode.

PLAYBACK

PREPARATION



❶ Set the POWER switch to ON.
❷ Insert a pre-recorded video cassette into the cassette loading slot.
❸ When a time base corrector is used, set the rear panel TBC switch to ON and the SYNC select switch to EXT (PB).
❹ Set the SYNC select switch to VIDEO.
- If an external sync signal is used, set it to EXT (PB).

❺ Set the AUTO MODE switch as required. See page 13.
❻ Set the AUDIO MONITOR SELECT switch to either Hi-Fi or NORMAL.
❼ Set the VIDEO DUB/YC627 OUT switch as required. Refer to page 6.

Notes:
- If a video signal is applied to either VIDEO IN connector, playback is locked to this video signal. Therefore, if the sync signal contained in this video signal is not stable, the playback picture will be distorted when the SYNC select switch is in the VIDEO position.
- Set the SYNC select switch to "VIDEO" in editing, otherwise horizontal bend might occur.
- The SEARCH x 1 mode can be used to change the reference signal selected by the SYNC select switch to an internal oscillator signal for distortion-free search.
- When dubbing to other recorders with this unit used as the player, set the YC627 OUT select switch according to the recorder and mode. For details, refer to page 6.

PROCEDURE

❶ Press the PLAY button. The tape will start running and the playback picture will appear on the monitor screen.
❷ Press the STOP button to stop playback.

Tracking adjustment
When a tape recorded with a different recorder is played back noise bars may appear or the picture may be blurred. In such a case, turn the TRACKING control to correct the picture referring to both the monitored picture and the tracking meter (VIDEO/TRACKING level meter). Optimum tracking is obtained when the meter makes its maximum deflection.
Note:
It is recommended that tracking be checked even when tapes recorded using this unit are played back.

Input monitoring during playback
If you wish to monitor the signal applied to the input connector during playback, press the REC button in the Play mode. The input signal will appear on the monitor screen.
Note:
Do not press the REC and PLAY buttons simultaneously, otherwise the unit enters the Record mode and any recordings on the tape are erased.

DIAL SEARCH & SHUTTLE SEARCH

SHUTTLE SEARCH AND JOG CONTROL

The arrangement of the search dial and the jog dial is concentric; the outer control functions as a search dial and the inner, a jog dial. These functions are especially convenient for quick location of edit points.

SEARCH

Turn the outer dial until the desired search speed is reached.

- The search speed is continuously variable between 1/30 and 10 times normal in both directions.
- The STILL position (centre click-stop) provides a still picture.
- Turn the dial clockwise to search in the forward direction and counterclockwise to search in the reverse direction.
- The X1 click-stop provides normal speed in the forward direction and X-1, in the reverse direction.
- There is another click-stop between X1 and the fully clockwise position and between X-1 and the fully counterclockwise position. These are the positions for 6 times normal speed in forward and reverse respectively.
- The fully clockwise position and the fully counterclockwise position provide about 10 times normal speed.

Note:

- When the dial is set to the X1 click-stop, the internal sync mode is automatically entered.

JOG

Turn the inner dial.

- A still picture is obtained at any moment you stop turning the dial.
- To move the picture in the forward direction, turn the dial clockwise; to move it in the reverse direction, turn counterclockwise.

To cancel the search or jog mode:

- Press the PLAY, PAUSE/STILL, FF, REW or STOP button according to the mode you want to enter next. The search dial setting remains unchanged.

Notes:

- During search, an extra pair of video heads operate and pick up only even-number fields of the picture. When the dial is set to X1, frame playback is engaged.
- If the Still mode continues for too long a time, the tape could be damaged. Therefore, if you leave the unit in the Still mode for more than about 3 minutes 45 seconds, the video track being traced will shift automatically.

SEARCH REW/SEARCH FF

When the REW or FF button is pressed in the Stop mode, normal rewind or fast forward takes place. When these buttons are pressed in the Play, Search or Still mode, the tape runs at about 10 times normal speed in the corresponding direction. The buttons can be locked and the indicator lights. You can follow the speeded-up picture on the monitor screen.

REPEAT PLAYBACK, COUNTER SEARCH & AUTO REWIND

REPEAT PLAYBACK

When the entire tape, from the beginning to the end, is to be repeated, proceed as follows:

1. Set the AUTO MODE switch to FULL REPEAT.
2. Press the PLAY button to start playback.
   - When the tape reaches its end, it is rewound to the beginning and then played back again automatically. The procedure is repeated as many times as desired.

COUNTER SEARCH

The counter search mechanism functions in conjunction with the tape counter and stops the tape automatically in the Rewind or Fast Forward mode at the counter reading of "0".

1. Press the COUNTER RESET button at a point which you may wish to locate later.
2. Set the AUTO MODE switch to MEMORY.
3. Press the REW or FF button when you need to return to the designated point. The tape will stop automatically at the counter reading of "0".

Notes:

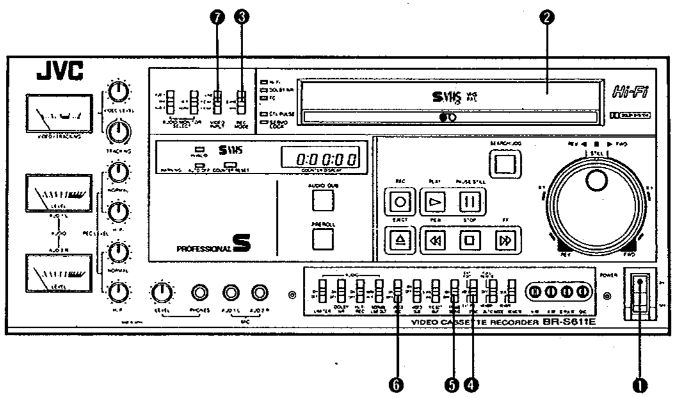
- The counter search mechanism does not function in the Shuttle Search mode.
- The tape may stop at a position slightly deviated from the counter reading of "0".

AUTO REWINDING

When the tape reaches its end in the Play or Record mode, it is automatically rewound to the beginning and then the Stop mode is engaged. The counter search mechanism functions automatically while the tape is being rewound. If the tape reaches its end in the Fast Forward mode, the auto rewind mechanism does not function and the Stop mode is engaged immediately.

RECORDING

PREPARATION



❶ Set the POWER switch to ON.
❷ Insert a video cassette into the cassette loading slot.
❸ Set the REC MODE select switch.
VHS :To record in the VHS SP mode.
S-VHS: To record in the S-VHS SP mode. (Be sure to use an S-VHS tape.)
❹ Set the SYNC switch to VIDEO.

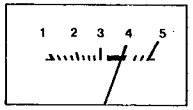
- If an external sync signal is used, set it to EXT (REC).

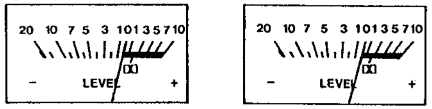
❺ Set the FRAME SERVO switch to ON if framing servo is to be applied to recordings.

- It is recommended that this switch be set to OFF when you record from a tape whose playback picture has an inferior S/N ratio, a multi-generation copy, a tape recorded using a random-interlaced ITV camera or a tape edited using another manufacturer's editor.

❻ Set the VIDEO AGC switch to ON if the built-in video AGC circuit is to be used.
❼ Set the VIDEO INPUT select switch as required.

RECORDING LEVEL ADJUSTMENTS





Video level adjustment

- For automatic level control, set the VIDEO AGC switch to ON.
- For manual level control, set the VIDEO AGC switch to OFF and turn the VIDEO LEVEL control so that the VIDEO/TRACKING meter deflects into the green zone while applying the colour bar video signal to be recorded.

Audio level adjustment

- Set the AUDIO INPUT SELECT switch, on the rear panel, depending on the input signal level.
- Turn the AUDIO REC LEVEL control until the AUDIO meter deflects to "0" with the loudest signal. This is the standard adjustment of the audio recording level.
- Set the LIMITER switch to ON to avoid eventual over-level recordings.

PROCEDURE

❶ Press the REC and PLAY buttons simultaneously. The Record mode will be engaged and both the REC and PLAY button lamps will light.

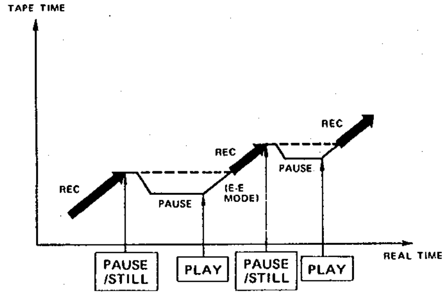
Notes:

- YC627 dubbing cannot be performed from VHS to S-VHS.
- In YC627 dubbing using a VHS tape worn by being dubbed several times in the player in the VHS mode, the INVALID indicator may light.

❷ Press the STOP button to stop recording.

- In YC627 dubbing, the top of the EE picture from the recorder may be distorted. This is not due to a defect in the unit. This distortion does not influence recording and playback.
- In YC627 dubbing, colour flashing may occur at the edit point. In this case, it is recommended to use YC 443 dubbing on composite dubbing.

RECORD PAUSE & ASSEMBLE RECORDINGS

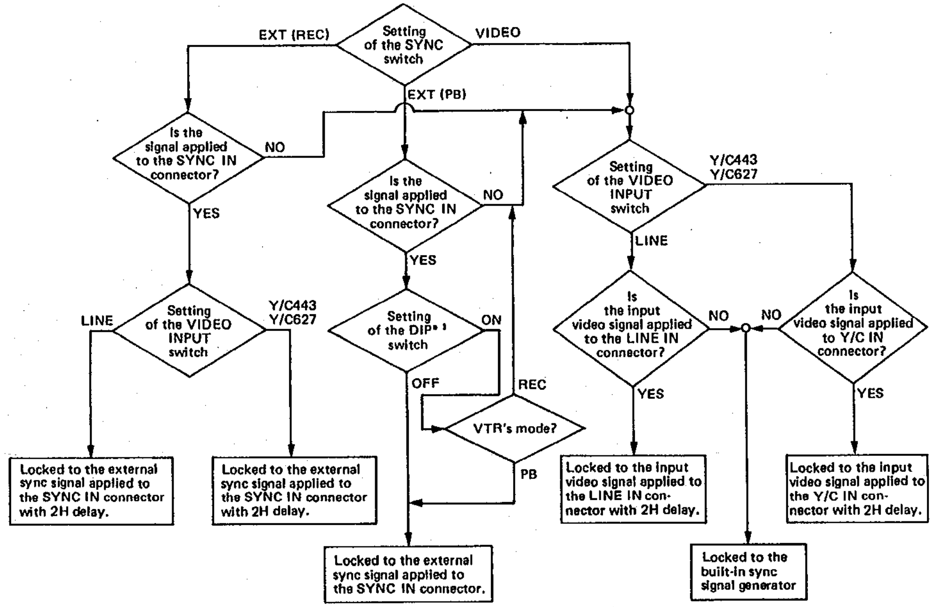


Recording can be stopped temporarily and restarted without detectable distortion in the picture.

1. Press the PAUSE/STILL button during recording. Recording will be stopped with the REC indicator still lit. The tape is automatically rewound by about 2.5 seconds of program time and stops in the Record Pause mode with both the REC and PAUSE/STILL indicators lit. The E-E picture will appear on the screen. When the PAUSE/STILL button is pressed again in this state, the picture recorded immediately before can be seen as a still picture.
   - If recording is restarted immediately after the still picture appears, the top portion of the picture at the edit point may be skewed.
2. To restart recording, press the PLAY button. The tape will be played back for about 2.5 seconds and the mode will switch automatically from playback to recording at the point where the PAUSE/STILL button was pressed.

   Note: In this case, as the colour frame servo does not operate, colour flashing may occur at the edit point.

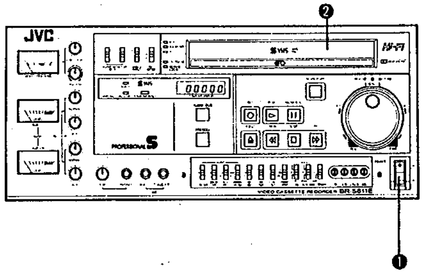
REFERENCE SYNC SIGNALS

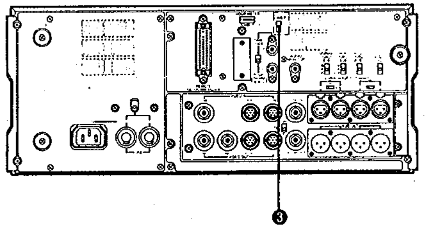

Setting of the SYNC switch
EXT (REC)
VIDEO
EXT (PB)
Is the signal applied to the SYNC IN connector?
NO
YES
Setting of the VIDEO INPUT switch
LINE
Y/C443
Y/C627
Locked to the external sync signal applied to the SYNC IN connector with 2H delay.
Locked to the external sync signal applied to the SYNC IN connector with 2H delay.
Is the signal applied to the SYNC IN connector?
NO
YES
Setting of the DIP*1 switch
ON
OFF
VTR's mode?
REC
PB
Locked to the external sync signal applied to the SYNC IN connector.
Setting of the VIDEO INPUT switch
Y/C443
Y/C627
LINE
Is the input video signal applied to the LINE IN connector?
NO
YES
Locked to the input video signal applied to the LINE IN connector with 2H delay.
Is the input video signal applied to Y/C IN connector?
NO
YES
Locked to the input video signal applied to the Y/C IN connector with 2H delay.
Locked to the built-in sync signal generator

*1 DIP switch: An internal switch. Please consult JVC's service section.

TIMER RECORDING & PLAYBACK

If you use a timer unit of appropriate voltage, the BR-S611E can be played back automatically at a preset time or signals from sources connected to the INPUT connectors can be recorded automatically at a preset time.





RECORDING

❶ Set the power switch to ON.
❷ Insert a video cassette into the cassette loading slot.
❸ Set the TIMER SELECT switch to REC.
- There is no need to press the REC and PLAY buttons to engage the Recording Standby mode.

PLAY BACK

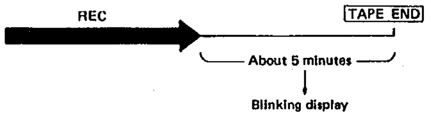
❶ Set the power switch to ON.
❷ Insert a video cassette into the cassette loading slot.
❸ Set the TIMER SELECT switch to PLAY.
- There is no need to press the PLAY button to engage the Playback standby mode.

Notes:
- When the tape reaches its end during timer recording or playback, the tape is automatically rewound to the beginning and stops. Therefore, do not set the timer in such a way that it will switch off power during the process of rewinding.
- To cancel the timer recording or playback mode, set the POWER and TIMER switches to OFF. Then set the POWER switch to ON.
- When the protection tab of the cassette has been removed, timer playback will take place instead of recording.

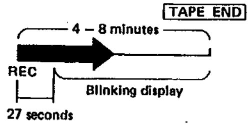
TAPE END WARNING

Tape end warning is given only during recording.

- The counter display starts blinking about 5 minutes before the end of the tape during recording.

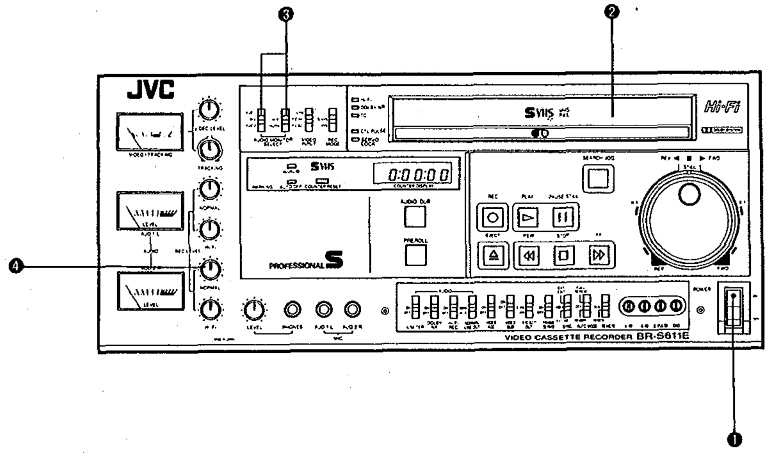

REC
TAPE END
About 5 minutes
Blinking display

- If recording is started with a cassette with a remaining tape time of only 5 minutes or so, the display starts blinking about 27 seconds after recording has started.


TAPE END
4 – 8 minutes
REC
Blinking display
27 seconds

Notes:
- The timing of tape end warning differs slightly depending on the type of cassette.
- With an EC-30 or an SE-C30 compact video cassette (in its adapter), tape end warning does not function.

AUDIO DUBBING



PREPARATION

❶ Set the power switch to ON.
❷ Insert a video cassette into the cassette loading slot.
❸ Set the AUDIO MONITOR SELECT switch to NORMAL and MIX or AUD-2.
❹ Adjust the audio channel-2 recording level by turning the AUDIO CHANNEL-2 NORMAL REC LEVEL control.

PROCEDURE

❶ Press the AUD DUB and PLAY buttons simultaneously. The Audio Dubbing mode will be engaged and both the AUD DUB and PLAY button lamps will light.
❷ Press the STOP button to stop audio dubbing.

WARNING DISPLAY

DIAGNOSTIC CODES

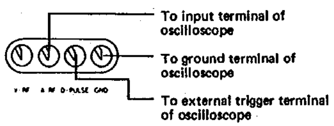
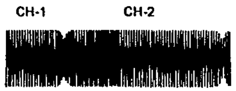
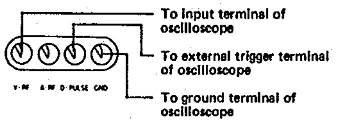
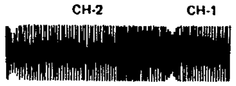
The WARNING display indicates various malfunctions and warnings by numerical codes. When the AUTO OFF indicator lights, it is necessary to turn the power off in order to recover the machine.

	Display		Cause of trouble or warning	Symptom/Operation
	Code	AUTO OFF LED		
Sensors	01	ON	Tape-end sensor LED is blown out.	The cassette is ejected. After ejection, cassette loading is not possible.
	02	ON	Moisture condensation.	The cassette is ejected. After ejection, the drum starts rotating and a cassette cannot be loaded. When condensation has been eliminated, the display turns off and cassette loading becomes possible.
	04	ON	Reel servo power insufficient.	All operations stop and all controls become inoperative.
	05	ON	CPU malfunctions.	All operations stop and all controls are inoperative.
	06	OFF	Playback of LP recordings was attempted.	The cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation to restored.
Loading mechanism	32	OFF	Tape cannot be loaded correctly.	The tape will be unloaded and the cassette ejected. Insert cassette again.
	33	ON	Tape cannot be unloaded.	All controls become inoperative.
	36	OFF	Tape cannot be half-loaded.	The cassette is ejected. After ejection, re-loading of a cassette is possible. When the display disappears, normal operation is restored.
	37	ON	Tape cannot be unloaded from the half-loaded position.	All operations stop and all controls are inoperative.
	39	ON	Unloading does not take place after "32".	All operations stop and all controls are inoperative.
Cassette compartment	40	OFF	Cassette compartment does not retract.	The cassette will be ejected. Insert it again.
	41	ON	Cassette compartment does not lift.	Retracting will be performed again. If able to complete retraction, controls become inoperative when the compartment reaches the fully retracted position.
	42	ON	After "41", retracting fails.	All controls become inoperative.

	Display		Cause of trouble or warning	Symptom/Operation
	Code	AUTO OFF LED		
Leader tape detection	56	OFF	Both tape beginning and end sensors are ON because of broken tape, etc.	The cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation is restored.
	57	OFF	Tape end sensor turns ON during half loading.	Rewind mode is engaged and, if the leader tape is detected within about 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation is restored.
	58	OFF	Tape beginning sensor turns ON during half loading.	FF mode is engaged and, if the leader tape is detected within about 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation is restored.
Rotating system	70	OFF	Drum motor stops.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.
	71	OFF	Capstan motor stops.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.
	72	OFF	Supply reel rotates abnormally.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.
	73	OFF	Take-up reel rotates abnormally.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.

TEST POINTS

The output signals from the Hi-Fi audio heads and video heads are available at the front panel test points. Connect an oscilloscope to these test points to check the performance and condition of the unit.

Connection	Items to be checked	Standard waveform
Hi-Fi audio head output  To input terminal of oscilloscope To ground terminal of oscilloscope To external trigger terminal of oscilloscope V-RF A-RF D-PULSE GND	• Tape-to-head contact • Tape running stability • Inferior RF after head replacement	• "+" triggered 
Video head output  To input terminal of oscilloscope To external trigger terminal of oscilloscope To ground terminal of oscilloscope V-RF A-RF D-PULSE GND	• Compatibility of tape pattern • Tape-to-head contact • Tape running stability • Tracking • Video signal recording level • Abnormality in RF Use a 10:1 probe.	• "+" triggered 

INTERNAL SWITCHES

Resetting internal switches enables some functions and circuit parameters to be changed. For resetting internal switches, consult a JVC dealer.

- This recorder has been preset to work with the RM-G810U Editing Control Unit. If the RM-86U Editing Control Unit is to be used, reset the DIP switches S1-1 and S1-2 on the SYSCON board to "ON".
- To prevent deterioration of the luminance signal frequency response with worn heads, or when using tapes that have different characteristics or have been over-played, this recorder incorporates an automatic equalizer (AUTO EQ) circuit which functions in the S-VHS mode. The reference signal to operate this circuit is added to one H line of the vertical blanking time. Prior to shipment, this recorder is preset to add the reference signal to line 11. If VITC (Vertical Interval Time Code), VITS (Vertical Interval Test Signal) or other signal is inserted in this line, these signals will be erased. If these signals are not to be erased, reset the DIP switches SW1-1, 1-2, and 1-3 on the FM R/P board, in order to defeat the AUTO EQ circuit or change the position of the reference signal.

Note:
The AUTO EQ circuit does not function if the reference signal reading position differs from the position of the reference signal added in recording. Also, it will malfunction if the VITC or VITS is recorded at the reference signal reading position.

RF 2H DELAY BOARD

Switch No.	Switch description	Preset	Function
SW3	Chroma enhancer	Up position	Up: Chroma enhancer ON. Down: Chroma enhancer OFF.

PB-Y BOARD

Switch No.	Switch description	Preset	Function
SW1	DOC switch	ON	OFF: With TBC switch "ON", the DOC does not fucntion. ON: With TBC switch "ON", both the TBC and DOC function.
SW2	V pulse switch	ON	OFF: No V pulse is added in the search mode.

FM R/P BOARD

<table>
<tr><th>Switch No.</th><th>Switch description</th><th>Preset</th><th>Function</th></tr>
<tr><td>SW2</td><td>AUTO EQ circuit switch</td><td>AUTO</td><td>AUTO: AUTO EQ functions.
MANU: AUTO EQ does not function.</td></tr>
<tr><td>SW1-1
SW1-2
SW1-3</td><td>Line select switch</td><td>OFF
ON
ON</td><td>Set according to the line to which the AUTO EQ reference signal is added.
<table>
<tr><th>Line</th><th>SW1-1</th><th>SW1-2</th><th>SW1-3</th></tr>
<tr><td>Defeat</td><td>ON</td><td>ON</td><td>ON</td></tr>
<tr><td>11</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td>12</td><td>ON</td><td>OFF</td><td>ON</td></tr>
<tr><td>13</td><td>ON</td><td>ON</td><td>OFF</td></tr>
<tr><td>14</td><td>OFF</td><td>OFF</td><td>ON</td></tr>
<tr><td>15</td><td>OFF</td><td>ON</td><td>OFF</td></tr>
<tr><td>16</td><td>ON</td><td>OFF</td><td>OFF</td></tr>
<tr><td>17</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
</table></td></tr>
<tr><td>SW1-4
SW1-5
SW1-6</td><td>Not used</td><td>OFF
OFF
OFF</td><td>Do not touch these switches.</td></tr>
<tr><td>SW1-7
SW1-8</td><td>Not used</td><td>OFF
OFF</td><td>Do not touch these switches.</td></tr>
</table>

REC-C BOARD

Switch No.	Switch description	Preset	Function
SW-1	For adjustment	270°	Do not touch this switch.

SYSCON BOARD

<table>
<tr><th>Switch No.</th><th>Switch description</th><th>Preset</th><th>Function</th></tr>
<tr><td>S1-1</td><td>Preroll speed</td><td>OFF</td><td>ON: Maximum preroll speed in editing is 4 times normal, and the RED LED remains lit while the backspaced section is being played from the Record-Pause mode.
OFF: Maximum preroll speed in editing is 6 times normal, and the RED LED blinks while the backspaced section is being played.</td></tr>
<tr><td>S1-2</td><td>FF/REW speed</td><td>OFF</td><td>ON: Maximum FF/REW speed is 20 times normal.
OFF: Maximum FF/REW speed is 40 times normal.</td></tr>
<tr><td>S1-3</td><td>Mode after ending an insert edit</td><td>OFF</td><td>ON: Prerolls when the EDIT STOP button is pressed during insert editing.
OFF: Enters the Play mode when the EDIT STOP button is pressed during insert editing.</td></tr>
<tr><td>S1-4</td><td>SUB SYNC switch</td><td>ON</td><td>ON: Locks to external sync signal during playback, and locks to input video signal during recording.</td></tr>
<tr><td>S1-5</td><td>Edit zero stop</td><td>OFF</td><td>ON: Editing stops at counter "zero" and then the tape prerolls.</td></tr>
<tr><td>S1-6</td><td>Insert with no CTL</td><td>OFF</td><td>ON: Insert editing is possible even on segments with no control pulses.</td></tr>
<tr><td>S1-7</td><td>Search dial select</td><td>OFF</td><td>ON: Enters the FF (REW) mode when the search dial is positioned to either extreme.</td></tr>
<tr><td>S1-8</td><td>Full-load stop</td><td>OFF</td><td>ON: The tape is fully loaded in the Stop mode.</td></tr>
<tr><td>S2-1</td><td>EE/PB</td><td>OFF</td><td>ON: EE video and audio are output during preroll except in recording.</td></tr>
<tr><td>S2-2</td><td>Warning disable</td><td>OFF</td><td>ON: Warning "06", "70" to "73" are not available.</td></tr>
<tr><td>S2-3</td><td>Auto rewind</td><td>OFF</td><td>ON: Auto rewind functions.</td></tr>
<tr><td>S2-4</td><td>Long still</td><td>OFF</td><td>ON: Long still function is not available.</td></tr>
<tr><td>S2-5</td><td>Record prohibit</td><td>OFF</td><td>ON: Recording is not possible even with cassettes with safety tab in place.</td></tr>
<tr><td>S2-6</td><td>Not used</td><td>OFF</td><td>Be sure to leave this switch in the OFF position.</td></tr>
<tr><td>S2-7</td><td>Direct eject</td><td>OFF</td><td>ON: Eject is possible from all modes.</td></tr>
<tr><td>S2-8</td><td>Direct search/jog</td><td>OFF</td><td>ON: Search mode can only be entered by pressing the SEARCH button.</td></tr>
<tr><td>S3-1
S3-2
S3-3</td><td>Not used</td><td>OFF
OFF
OFF</td><td></td></tr>
<tr><td>S3-4</td><td>RM-88 switch</td><td>OFF</td><td>Set to ON when the RM-88 is connected.</td></tr>
<tr><td>S3-5
S3-6
S3-7</td><td>Preroll time</td><td>ON
OFF
ON</td><td>Determine preroll time.
<table>
<tr><th>Time (sec)</th><th>2.4</th><th>0.5</th><th>3.0</th><th>5.0</th><th>7.0</th><th>10.0</th><th>15.0</th></tr>
<tr><td>S3-5</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td></tr>
<tr><td>S3-6</td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td></tr>
<tr><td>S3-7</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td></tr>
</table></td></tr>
<tr><td>S3-8</td><td>NTSC/PAL</td><td>OFF</td><td>Be sure to leave this switch in the OFF (PAL) position.</td></tr>
</table>

SPECIFICATIONS

GENERAL	
Format	: VHS PAL/S-VHS Europe standard
Power requirement	: AC 110/127/220/240 V∿, 50/60 Hz
Power consumption	: 105 watts (Max. 115 watts with the Automatic Editing Control Unit, DC 12 V, 550 mA)
Dimensions	: 42.9(W) x 18.8(H) x 51.4(D) cm
Weight	: 25 kg
Operating temperature	: 5°C to 40°C
Storage temperature	: –20° C to 60°C
Tape speed	: 23.39 mm/sec
Recording & Playback time	: Max. 180 min. with JVC E-180/SE-180
Fast forward/Rewind time	: Less than 4.5 min. for 180 min. tape
Search speed	: Dial Search FWD/REW X ±1/30 to X ±10
VIDEO	
Recording and playback	: Rotary four-head, helical scanning system Colour signal: Phase shift, converted sub-carrier direct recording
Video signal system	: PAL-type colour signal S-VHS Europe type Y/C signal
Input	
Line	: 0.5 to 2.0 Vp-p, 75 ohms, unbalanced
YC627	Y: 1.0 Vp-p, 1 k-ohm, unbalanced C: 0.9 Vp-p, 1 k-ohm, unbalanced
YC443	Y: 1.0 Vp-p, 75 ohms, unbalanced C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Output	
Line	: 1.0 Vp-p, 75 ohms, unbalanced
YC627	Y: 1.0 Vp-p, 1 k-ohm, unbalanced C: 0.9 Vp-p, 1 k-ohm, unbalanced
YC443	Y: 1.0 Vp-p, 75 ohms, unbalanced C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Signal-to-noise ratio	: More than 45 dB
Horizontal resolution	: More than 400 lines (S-VHS) More than 250 lines (VHS colour)
External SYNC input	: 0.5 to 4.0 Vp-p, 75 ohms, unbalanced
RF output (DOC)	: 0.5 Vp-p, 75 ohms, unbalanced

AUDIO	
Input	
Line	: -6/0/+4 dBs, 10 k-ohms/600 ohms switchable, balanced (Hi-Fi/Normal)
Mic	: -67 dBs, 10 k-ohms, balanced
Output	
Line	: -6/0/+4 dBs, Low impedance, balanced (Hi-Fi/Normal)
Headphone	: ∞ to –17 dBs, 8 ohms
Monitor	: –6 dBs Low impedance, unbalanced
Signal-to-noise ratio	: More than 43 dB (NR-off) (at 3 %distortion) (Normal)
Dynamic range	: More than 87 dB (Hi-Fi)
Frequency response	: 20 to 20,000 Hz (Hi-Fi) 40 to 12,000 Hz (Normal)
Wow and flutter	: Less than 0.005 % WRMS (Hi-Fi) Less than 0.15 %WRMS (Normal)
Time code	
Input	: 0 dB ±6 dBs, 10 k-ohms
Output	: 0 dB ±3 dBs, Low impedance
CONNECTORS	
Video	
Line input	: BNC-type connector
Line output	: BNC-type connectors
YC443/YC627 input/output	: 7-pin connectors
Audio	
Hi-Fi input/ouput	: XLR connectors
Normal input/output	: XLR connectors
Monitor output	: RCA-pin connector
Microphones	: 6 mm jacks
Headphones	: 6 mm jack
Remote control	: 45-pin connector
Accessories	: 7-pin cable : Switch cover

Design and specifications subject to change without notice.

SECTION 1
GENERAL DESCRIPTION

1.1 REMOVING EXTERNAL COVERS

1. Top cover

Remove two screws Ⓐ and lift its rear side slightly to take it off.

2. Side covers

Remove four screws Ⓑ from the right side and take off the right side cover.
For the left side cover, proceed to the same as for the right.

3. Front panel

1) Take off the top cover first, and raise the set on the rear panel. In this state, remove seven volume controls together with felt washers.

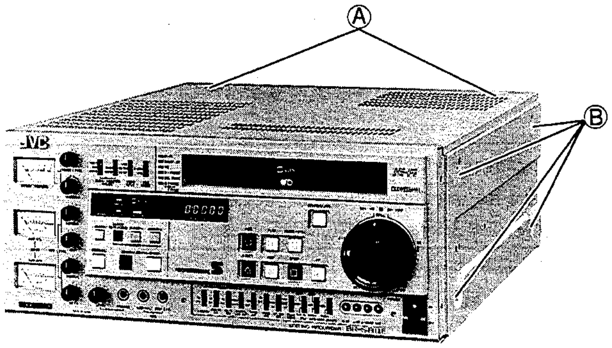


Fig. 1-1

2) (If the switch cover is installed, remove it.)
   Remove screws Ⓓ (two pcs.) and Ⓔ (two pcs.) and disconnect seven connectors which are connected with boards on the front panel. Then, the front panel can be taken off.

Note: Three connectors connected with the FRONT LED board cannot be disconnected unless the board is removed from the front panel.

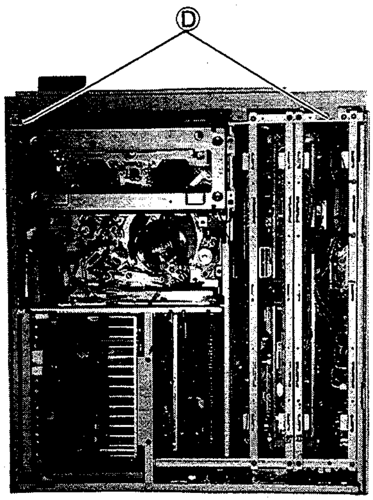


Fig. 1-2

4. Bottom cover

Raise the set on the rear panel and remove five screws Ⓕ to take off the bottom cover.

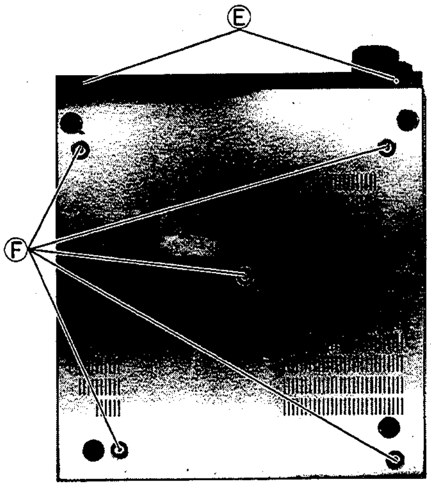


Fig. 1-3

5. Rear panel

1) Rear panel A
   Remove two screws Ⓘ and take off the cover. Next, remove five screws Ⓙ and the foot Ⓚ to take off the rear panel A.
2) Rear panel B
   Remove four screws Ⓛ and two feet to take off the rear panel B.

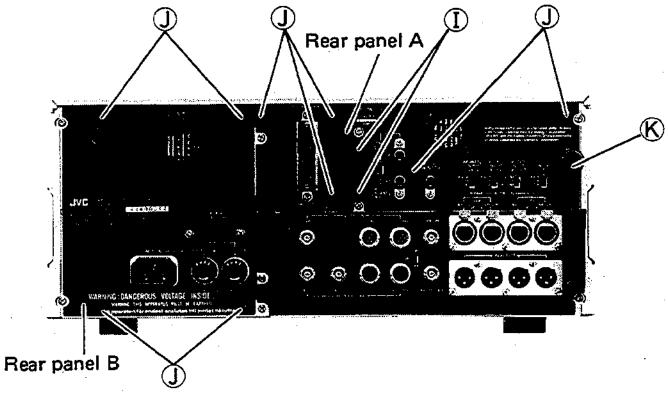


Fig. 1-4

1.2 REMOVING MAIN BOARDS

Note:
- When removing and resetting any board, make sure to turn off the power.
- Board(s) taken apart once must be reset or replaced at its original position correctly.
- Location of main boards is classified into several groups as shown in the following table.

Group	Name of Board	Procedure
A	01 REC Y 04 Y/C SEPARATOR 66 REC COLOUR 67 FM REC & PB (01, 04, 66, 67: VIDEO-1) 02 PB Y 03 PB COLOUR 63 CROSSTALK CANCEL 65 Y 2H DELAY (02, 03, 63, 65: VIDEO-2) 07 FM AUDIO 08 NORMAL AUDIO (07, 08: AUDIO) 10 SERVO-1 40 SERVO-1 SUB 12 SYSCON (10, 40, 12: SYS/SRV) 17 REGULATOR 11 SERVO-2 36 CF SERVO 37 RF DL & C ENHANCER	1) Take off the top cover. 2) For every board to take off, remove two screws fixing the board bracket to the set (except boards of 11, 36 and 37).
B	05 VIDEO PRE/REC AMP 09 V. ERS/FM AUDIO PRE	1) Face the front panel to this side and take off the top cover. 2) Remove the cassette housing referring to Section 2.5. (for removing the V. ERS/FM AUDIO PRE board)
C	28 45 PIN CONNECTOR 29 REAR 71 VIDEO CONNECTOR 72 AUDIO CONNECTOR 73 TIME CODE CONNECTOR	1) Face the rear panel to this side. 2) Remove the rear bracket.
D	14 DRIVER	1) Raise the set on its rear panel and open the bottom cover.
E	19 OPERATION-1 20 OPERATION-2 24 JOG 30 FRONT LED	1) Remove the front panel ass'y referring to Section 1.1.

1. Group A

1-1. REGULATOR board and AUDIO board

1) Lift the board slightly upwards.
2) After disconnecting connectors from the board, it can be taken apart.

1-2. Other boards

1) Pull the board (or together with bracket) upwards to take it off.

Note: Be the most careful at taking off the AUDIO and VIDEO-1 boards.

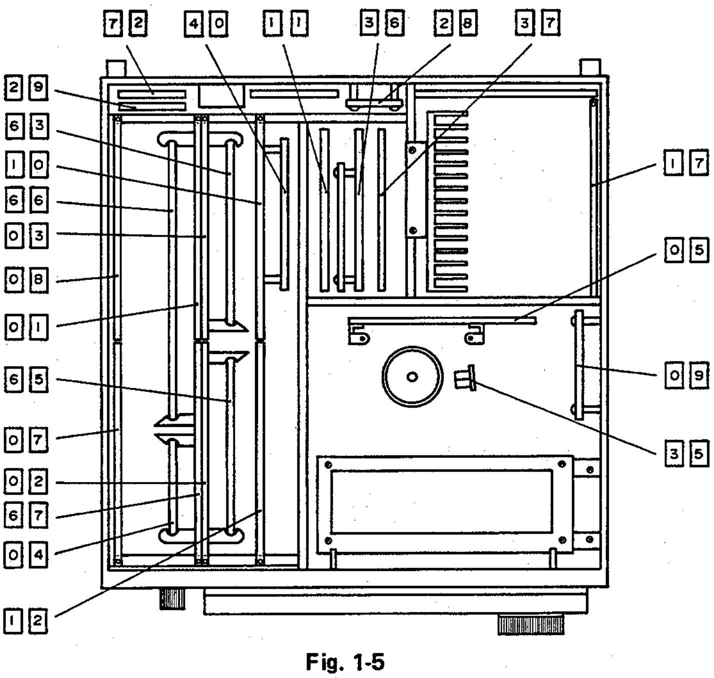


Fig. 1-5

2. Group B

2-1. VIDEO PRE/REC AMP board

1) Remove the cleaner ass'y and disconnect three connectors from the board.
2) Remove two screws fixing the bracket to the drum ass'y.
3) Lift the board upwards to take it off.

Note: When unscrewing and screwing the two screws securing the bracket to the board, pay careful attention to them not to drop into the set.

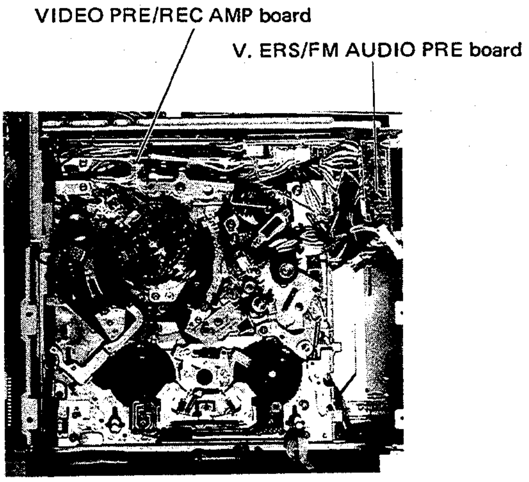

VIDEO PRE/REC AMP board
V. ERS/FM AUDIO PRE board

Fig. 1-6

2-2. V. ERS/FM AUDIO PRE board

1) Open the upper cover Ⓐ of two shield covers located on the board. (BR-S811E ONLY)
2) Slightly pull up the board from the set, and remove two PC supports to take off the board.
3) Disconnect three connectors inside the shield cover Ⓐ (BR-S811E ONLY) and open the shield cover Ⓑ with the board being lifted upwards.
4) By disconnecting four connectors inside the cover Ⓑ, the board can be taken off.

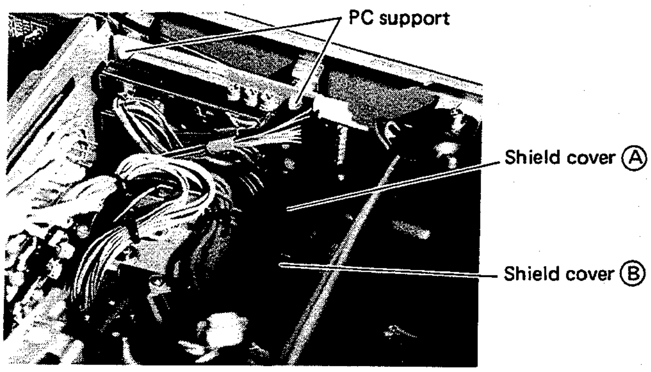

PC support
Shield cover Ⓐ
Shield cover Ⓑ

Fig. 1-7

3. Group C

1) Remove four screws Ⓜ and remove the rear bracket.

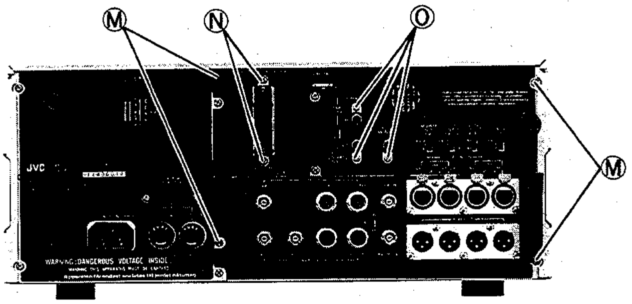


Fig. 1-8

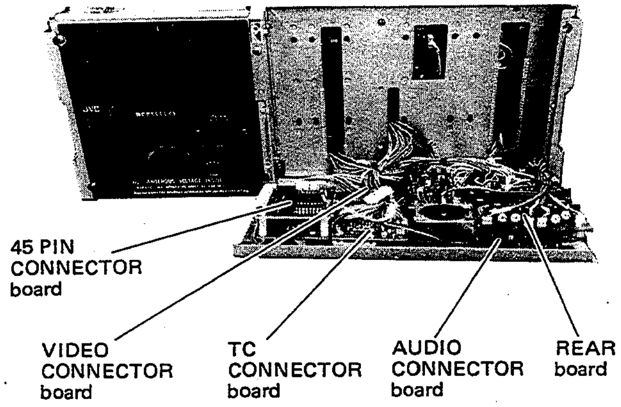

45 PIN CONNECTOR board
VIDEO CONNECTOR board
TC CONNECTOR board
AUDIO CONNECTOR board
REAR board

Fig. 1-9

3-1. 45-PIN CONNECTOR board

2) Remove two screws Ⓝ.
3) After disconnecting connectors from the board, take off the board.

3-2. REAR board

2) Remove three PC supports and disconnect connectors.

3-3. TC CONNECTOR board

2) Remove the REAR board.
3) Remove three screws Ⓞ.
4) Remove the screw fixing the TC CONNECTOR board and take off the board.

3-4. AUDIO CONNECTOR board

2) Remove the REAR board and unscrew the screw fixing the AUDIO CONNECTOR board.
3) Unsolder eight XLR connectors and take off the board.

3-5. VIDEO CONNECTOR board

2) Remove the REAR board.
3) Unsolder the terminals (LINE IN, Y/C 443 IN, etc.) and unscrew the screw fixing this board.

4. Group D

4-1. DRIVER board

1) Remove two screws.
2) Carefully arranging wires, lean the board to this side. (The board can lean to a right angle.)
3) Remove two screws securing the board and bracket and disconnect connectors from the board. Then the board can be taken off.

Note: If the board is leaned without arrangement of wires, it may cause damage of the board and parts (transistors, etc.).

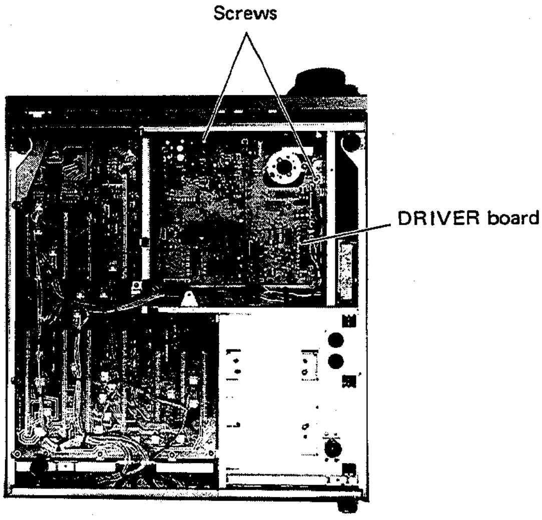


Fig. 1-10

5. Group E

5-1. OPERATION-1/OPERATION-2 boards

The OPERATION-1 board is connected to the COUNTER board, DIRECTION LED board and OPERATION-2 board with flat wires.

1) Take off the FRONT LED and COUNTER boards by removing screws fixing them to the front panel.
2) Remove three screws fixing the OPERATION-1 board.

Note: Between the OPERATION-1 and OPERATION-2 boards a color washer and a slit washer are inserted. When removing screws, be careful not to lose them.

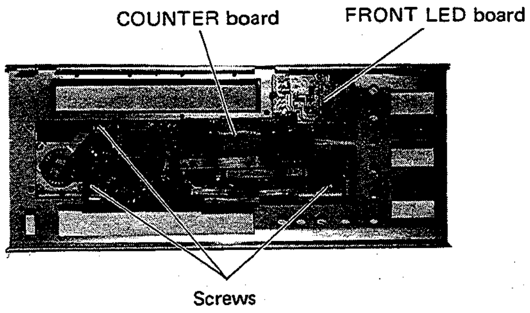


Fig. 1-11

3) Take apart the OPERATION-1, COUNTER and FRONT LED boards (see Fig. 1-12).

Note: During this work to take off the boards, pay the most careful attention to the flat wire connecting the OPERATION-1 and COUNTER boards since it is in contact with the OPERATION-2 board.

4) Take off the DIRECTION LED board by removing a screw.
5) By removing five screws securing the OPERATION-2 board, the OPERATION-1 & -2, COUNTER and DIRECTION LED boards can be taken off.

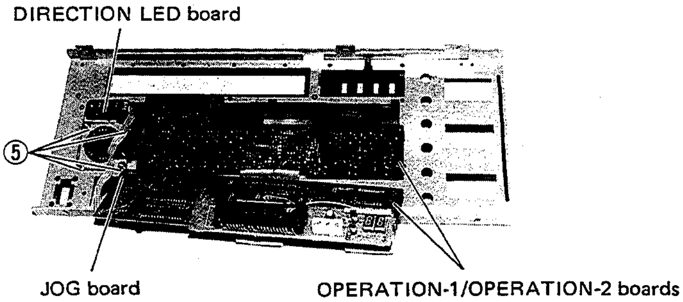


Fig. 1-12

5-2. SEARCH/JOG CONTROL assembly

1) Remove the search dial according to the following.
   Remove the outer rubber ring ①.
   (To do this work, insert a 1.5 mm hex. wrench into a hole ② located on the other side of the search dial's marking.)
   Loosen a hex. screw ③ on the other side of the finger pointer of the JOG dial, and remove this dial.
   Remove the search dial together with three screws ④.
2) After removing the screw ⑤ fixing this assembly to the front panel, take off the main body of this assembly. (see Fig. 1-12)

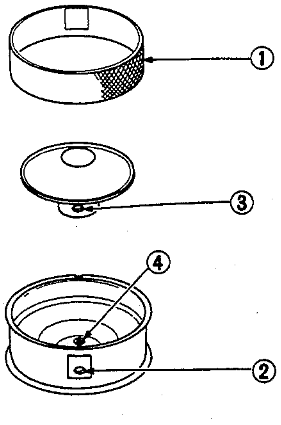


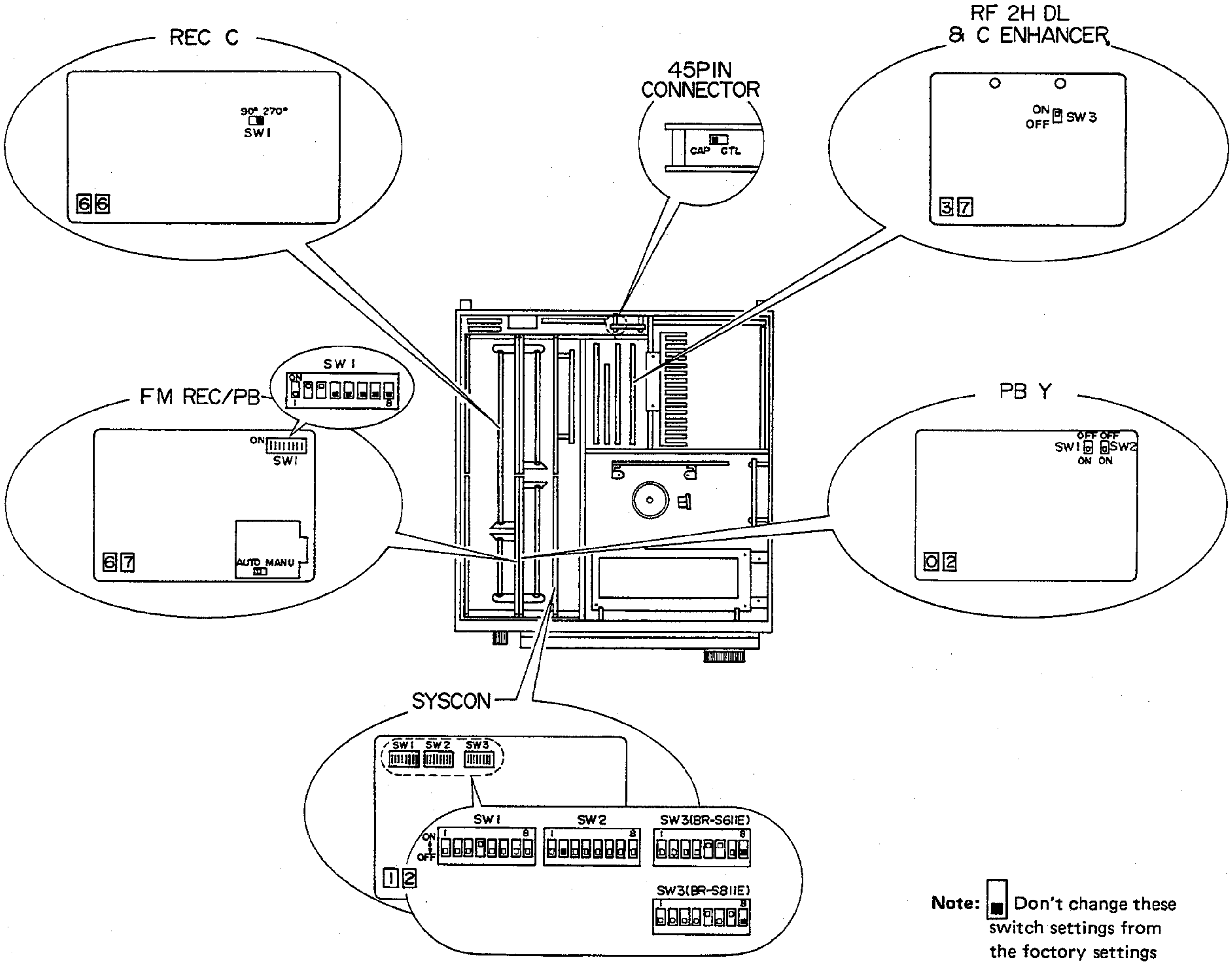
Fig. 1-13

Note: If the JOG board is once removed from the SEARCH /JOG CONTROL assembly (PGS20128D), it requires special adjustment for re-assembling them. Under these circumstances, it is recommended not to remove the JOG board from the SEARCH/JOG CONTROL assembly.

1.3 DIP SWITCHES

1.3.1 Switch locations

Fig. 1-14 shows the locations and factory settings of the internal switches.
Check the switch positions during service, since cases of difficulty may occur due to incorrect setting. See also Section 1.9.


REC C
90° 270°
SW1
66
45PIN
CONNECTOR
CAP CTL
RF 2H DL
& C ENHANCER
ON
OFF
SW3
37
FM REC/PB
SW1
ON
1
8
ON
SW1
AUTO MANU
67
PB Y
OFF OFF
SW1 SW2
ON ON
02
SYSCON
SW1 SW2 SW3
SW1
SW2
SW3(BR-S611E)
ON
OFF
1
8
SW3(BR-S811E)
12

Note: ■ Don't change these switch settings from the foctory settings

Fig. 1-14

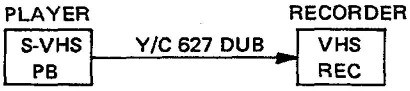
1.3.2 Switch functions

$\boxed{0}\boxed{2}$ PB Y board

Symbol No.	Name of Switch	Set Position at Shipment	Function
SW1	DOC (Refer to 1.4)	ON	OFF: Activates DOC circuit. However, turning on TBC switch makes DOC circuit inactive automatically. ON : DOC is active irrespective of TBC switch ON/OFF.
SW2	ADD V PULSE (Refer to 1.4)	ON	ON : Adds false V pulse in Search mode. However, turning on TBC switch stops addition automatically. OFF: No false V pulse is added irrespective of TBC switch ON/OFF position.

$\boxed{1}\boxed{2}$ SYSCON board

Symbol No.	Name of Switch	Set Position at Shipment	Function
S1-1	RM-86 (Refer to 1.3.3.)	OFF	ON : RM-86E OFF: RM-G810E
S1-2	FF/REW SPEED	OFF	ON : FF/REW at X±20 OFF: FF/REW at X±40
S1-3	INSERT EDIT END	OFF	If EDIT STOP switch is pressed in Insert Edit mode: ON : Sets to Preroll. OFF: Sets to Play mode.
S1-4	SUB SYNC (Refer to 1.3.4.)	ON	ON : When TBC is connected to the recorder side. OFF: For other use than the above.
S1-5	EDIT ZERO STOP	OFF	When counter reads "0:00:00" in Recording: ON : In Edit mode, to stop Edit and to start Preroll. In REC mode, to set mode to Stop. OFF: To continue recording.
S1-6	NO CTL INSERT	OFF	If 'INSERT' takes place into a tape without CTL signal recorded: ON : To set to Insert mode. OFF: To set to Play mode.
S1-7	DIAL SELECT	OFF	When Search dial is turned fully clockwise (counterclockwise): ON : To set to FF (REW) mode after 'Unloading'. OFF: To set to Search X10 (X−10) mode.
S1-8	FULL LOAD STOP (Refer to 1.3.5.)	OFF	In Stop mode: ON : Realizes 'Full Loading' state. OFF: Realizes 'Half Loading' state.
S2-1	EE/PB	OFF	During Preroll except in REC mode, video and audio output is: ON : EE OFF: PB (EE in Still mode)
S2-2	WARNING DISABLE	OFF	ON : Warnings of "06", "70"−"73" are disabled. OFF: All warnings are enabled.
S2-3	AUTO REW	OFF	If tape end is detected in PB: ON : Sets to Stop mode. OFF: Rewinds to the beginning of tape and then sets to Stop mode.

<table>
<tr><th>Symbol No.</th><th>Name of Switch</th><th colspan="2">Set Position at Shipment</th><th>Function</th></tr>
<tr><td>S2-4</td><td>LONG STILL DISABLE
(Refer to 1.3.6.)</td><td colspan="2">OFF</td><td>ON : 'Long Still' function is inactive.
OFF: 'Long Still' function is active.</td></tr>
<tr><td>S2-5</td><td>REC IMPOSSIBLE</td><td colspan="2">OFF</td><td>Recording on tape having the miserasure prevention tab:
ON : Impossible.
OFF: Possible.</td></tr>
<tr><td>S2-6</td><td>Not used</td><td colspan="2">OFF</td><td></td></tr>
<tr><td>S2-7</td><td>DIRECT EJECT</td><td colspan="2">OFF</td><td>ON : 'Eject' is possible in all modes.
OFF: 'Eject' is possible only when STOP LED is lighting.</td></tr>
<tr><td>S2-8</td><td>DIRECT SEARCH / JOG</td><td colspan="2">OFF</td><td>When SEARCH/JOG dial is turned:
ON : SEARCH/JOG mode won't be realized.
OFF: SEARCH/JOG mode will be realized.</td></tr>
<tr><td>S3-1</td><td>Not used</td><td colspan="2">OFF</td><td></td></tr>
<tr><td>S3-2</td><td>Not used</td><td colspan="2">OFF</td><td></td></tr>
<tr><td>S3-3</td><td>VIDEO INVALID CANCEL
(Refer to 1.8)</td><td colspan="2">OFF</td><td>In the case such the connection as shown below is set up for dubbing:
ON : REC mode
(INVALID LED blinks.)
OFF : To invalidate REC mode
(INVALID LED is coming on.)
 </td></tr>
<tr><td>S3-4</td><td>RM-88E
(Refer to 1.3.3.)</td><td colspan="2">OFF</td><td>Should be set to 'ON' only when RM-88E is connected.
If this switch is kept 'OFF' even when RM-88E is connected, pressing EDIT STOP button sets the mode to REC PAUSE simultaneously with 'Preroll End'.</td></tr>
<tr><td>S3-5
S3-6
S3-7</td><td>PREROLL TIME</td><td>ON
OFF
ON
BR-S811E</td><td>ON
ON
OFF
BR-S611E</td><td>The preroll time can be set by these switches. The backspace time during recording remains 2.4 seconds regardless of the switch settings.
<table>
<tr><th colspan="3">S3</th><th>Preroll Time</th><th></th></tr>
<tr><th>5</th><th>6</th><th>7</th><th>(sec)</th><th></th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>2.4</td><td></td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>0.5</td><td></td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>3.0</td><td></td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>5.0</td><td>BR-S611E</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>7.0</td><td></td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>10.0</td><td>BR-S811E</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>15.0</td><td></td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>NOT USED</td><td></td></tr>
</table></td></tr>
<tr><td>S3-8</td><td>NTSC/PAL</td><td colspan="2">OFF</td><td>ON : NTSC
OFF: PAL</td></tr>
</table>

2 8 45 PIN CONNECTOR board

Symbol No.	Name of Switch	Set Position at Shipment	Function
SW1	CTL/CAP PULSE (Refer to 1.3.3.)	CAP	Switches output of pin 35 of 45-pin connector.

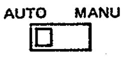
3 7 RF 2H DL & C ENHANCER

Symbol No.	Name of Switch	Set Position at Shipment	Function
SW3	COLOUR ENHANCER (Refer to 1.5)	ON	ON : ENHANCER circuit is active. OFF: ENHANCER circuit is inactive.

6 6 REC C board

Symbol No.	Name of Switch	Set Position at Shipment	Function
SW1	P. BURST PHASE	270°	270° : Normal position

6 7 FM REC/PB board

<table>
<tr><th>Symbol No.</th><th>Name of Switch</th><th>Set Position at Shipment</th><th>Function</th></tr>
<tr><td>SW1-1
SW1-2
SW1-3</td><td>LINE SELECT switch
(Refer to 1.6.)</td><td>OFF
ON
ON</td><td>
<table>
<tr><th colspan="3">SW1</th><th rowspan="2">Reference signal added to line</th></tr>
<tr><th>1</th><th>2</th><th>3</th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>Not added</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>11H</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>12H</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>13H</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>14H</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>15H</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>16H</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>17H</td></tr>
</table>
SW1-1, -2 and -3 are set according to the line for adding the reference signal during recording.</td></tr>
<tr><td>SW1-4
SW1-5</td><td>DELAY switch</td><td>OFF
OFF</td><td rowspan="2">Be sure to leave at the factory set positions.</td></tr>
<tr><td>SW1-6</td><td>SEPARATE switch</td><td>OFF</td></tr>
<tr><td>SW1-7
SW1-8</td><td>Not used</td><td>OFF
OFF</td><td></td></tr>
<tr><td>SW2</td><td>AUTO EQ switch
(Refer to 1.6)</td><td> </td><td>AUTO : Auto equalization circuit functions when the reference signal is recorded on the line by SW1-1, -2 and -3.
MANU : Auto equalization circuit does not function.</td></tr>
</table>

1.3.3 Important when connecting remote controller

The DIP switches must be set according to the type of remote controller.

(1) S1-1 (SYSCON board)

S1-1	ON	OFF
This selects the maximum preroll speed during editing.	4X speed	6X speed
REC LED in backspace	Flash	Light

(2) RCU COUNTER REF switch

This switch sets the remote controller counter for operation from the control pulse or capstan pulse.

As this model includes a half loading function, the control pulse is also present during Fast Forward and Rewind. Thus, the switch can normally be left in the CTL position. **However, if using the RM-86E, be sure to set the switch to CAP, as the unit may misoperate from the CTL pulse.**

(3) Switch settings

	VTR switch settings			Remote controller switch settings			
	[SYSCON] S1-1	[SYSCON] S3-4	[45P CONN.] SW1	SEARCH SPEED SW	EDIT TIMING SW	PREROLL TIME	COUNTER REF SW
RM-88E	ON	ON	CAP	–	–	–	–
*RM-86E	ON	OFF	CAP	–	–2 Frame S1-1 : OFF S1-2 : ON [MAIN CTL]	10 sec S1-3 : ON S1-4 : OFF [MAIN CTL]	CAP Player: S1-5: OFF, S1-6: ON Recorder: S1-7: ON, S1-8: OFF [MAIN CTL]
RM-G810E	OFF	OFF	CAP	–	–2 Frame S1 : ON S2 : OFF (FUNCTION SEL SW)	7 sec (CF SERVO ON : 10 sec) 7 sec: S3 OFF, S4 ON 10 sec: S3 ON, S4 ON (FUNCTION SEL SW)	CTL Player: S5 : ON, S6 : OFF Recorder: S7 : ON, S8 : OFF (FUNCTION SEL SW)
RM-G80E	OFF	OFF	CAP	TYPE SW: "TYPE 1" (REAR)	–	–	CTL S1-1 : 1 [●–● ●] 3 [CPU SUB]
RM-G410E	OFF	OFF	CAP	S2-5 : OFF [MAIN]	–2 Frame S2-1 : OFF S2-2 : ON [MAIN]	–	CTL S1-1 : OFF S1-2 : ON [MAIN]

* Avoid using the Bump function with the RM-86E.
Note that bump will be induced with S2-2 OFF and the preroll time set for more than 10 seconds.

(4) 45-pin connector SW1 and COUNTER REF switch

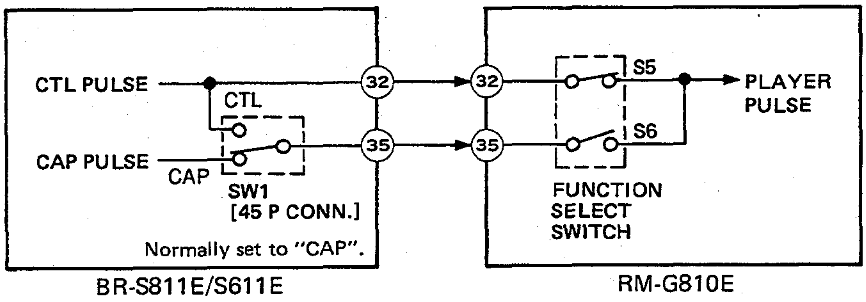
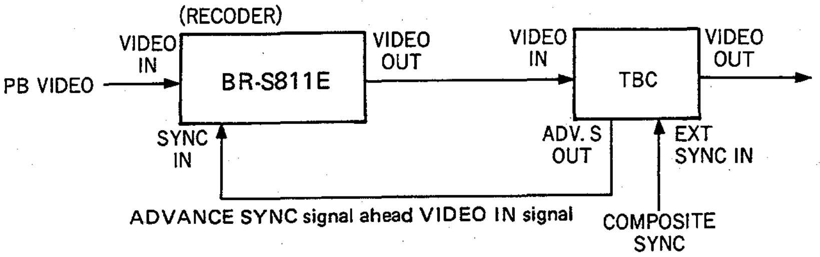
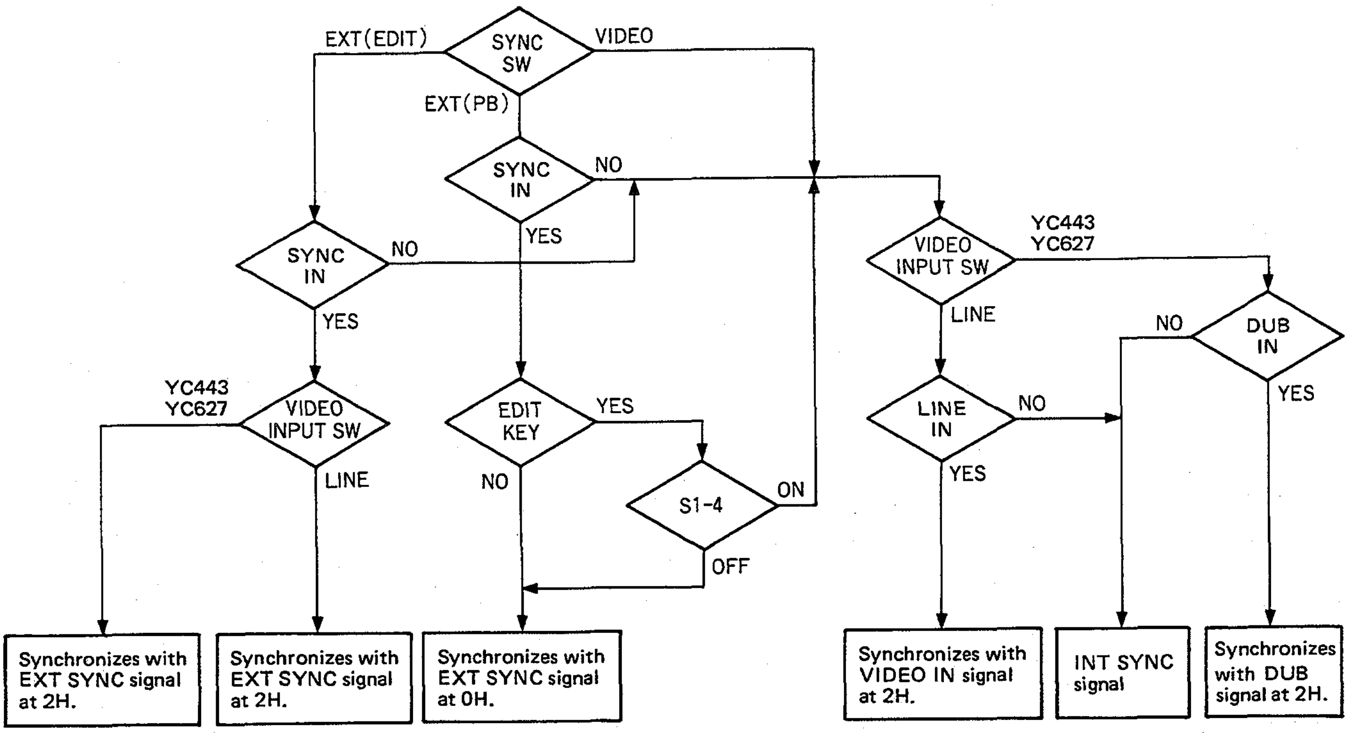


Fig. 1-15

1.3.4 SYNC SUB switch function


(RECODER)
VIDEO IN
PB VIDEO
BR-S811E
VIDEO OUT
SYNC IN
VIDEO IN
TBC
VIDEO OUT
ADV. S OUT
EXT SYNC IN
ADVANCE SYNC signal ahead VIDEO IN signal
COMPOSITE SYNC

- In a system that TBC is connected to the recorder, there is phase difference (time lag) between video input signal and external sync. signal since advance sync. signal is input to the recorder through its SYNC IN terminal. To use the recorder for ordinary recording, it is required to utilize video input signal as reference signal by switching the SYNC SELECT switch to 'VIDEO' position, while for use it in PB mode, set the select switch to 'EXT (PB)' position to synchronize with ADVANCE SYNC signal. S1-4 saves much time and trouble for this switching operation between REC and PB. In other words, as far as the SYNC switch is set to 'EXT PB' and S1-4 to 'ON', recording synchronizes with VIDEO IN signal while playback does with ADVANCE SYNC signal.


EXT(EDIT)
SYNC SW
VIDEO
EXT(PB)
SYNC IN
NO
YES
SYNC IN
NO
YES
YC443
YC627
VIDEO INPUT SW
LINE
EDIT KEY
YES
NO
S1-4
ON
OFF
VIDEO INPUT SW
YC443
YC627
LINE
DUB IN
NO
YES
LINE IN
NO
YES
Synchronizes with EXT SYNC signal at 2H.
Synchronizes with EXT SYNC signal at 2H.
Synchronizes with EXT SYNC signal at 0H.
Synchronizes with VIDEO IN signal at 2H.
INT SYNC signal
Synchronizes with DUB signal at 2H.

Subnotes: 1) "Synchronizes at 2H" means that output signal is 2H later than the reference signal.
2) "EDIT KEY" means INSERT button (VIDEO, AUD-1, AUD-2), EDIT START button and FULL REC mode.

1.3.5 Full Loading Stop mode

If S1-8 is turned on, Stop mode falls into FULL LOADING condition in which the drum rotates and pinch roller presses tape. To protect tape in this condition the capstan motor rotates in the reverse direction at X1/5 speed for 400 msec to loosen tape slighgly. (In the case this condition continues for about 10 minutes, the set automatically enters Stop mode with HALF LOADING.

1.3.6 Long Still mode

After STILL,
when it elapses 3' 30"– 4' 00" : tape is forwarded at X1/5 speed for about 400 msec.
" 7' 00"– 7' 30" : tape is forwarded at X1/5 speed for about 400 msec.
" 10' 30"– 11' 00" : UNLOADING, then STOP mode.

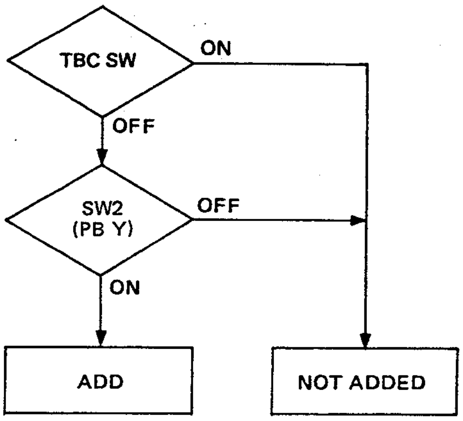
1.4 TBC SWITCH FUNCTION

Setting the TBC switch ON produces the following states.

1) In order to avoid TBC operating error, the ADD V PULSE is not applied during Search.

Note: The ADD V PULSE can also be switched ON and OFF by SW2 of the PB Y board. (Set to ON when shipped from factory.) However, the pulse is not applied in Search with the TBC switch ON.

- ADD V PULSE SW



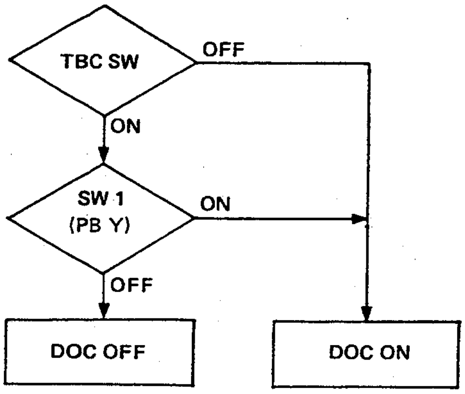
2) Ordinarily, fH changes in the Search mode due to the change in tape speed. In the BR-S811E/S611E, the drum rotation rate is changed in order to maintain a constant fH (15.625 kHz) during Search with the TBC switch OFF. However, with the TBC switch ON, the drum rotation does not change in the Search mode, since the change of fH is compensated internally by the TBC.

Notes: TBC and DOC

PB Y board SW1 is set to ON at time of shipment. The DOC functions regardless of the TBC switch setting. When SW1 is OFF, DOC operation can be selected from the TBC switch. However, note the following points.

1) Visible dropouts increase if the TBC switch is ON when a TBC is not connected.
2) Visible dropouts will also occur if the connected TBC does not contain a DOC circuit.

- DOC SW



3) PB Y COMB FILTER circuit does not operate.

1.5 C ENHANCER CIRCUIT

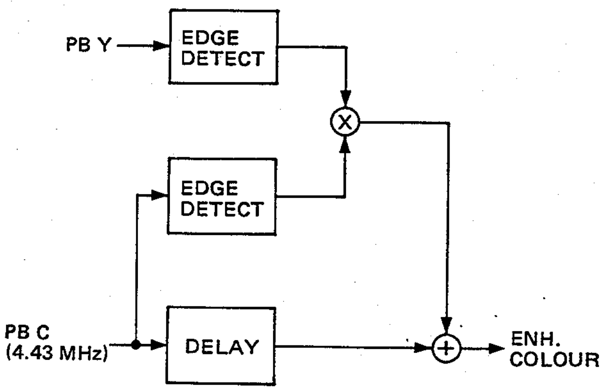


Fig. 1-16

This circuit functions during playback to improve colour edge response (the signal at Y/C 627 OUT does not pass through this circuit).

Colour sharpness is enhanced by using correlation between the luminance and colour signals with the edge component of the luminance signal. However, correction error is avoided by suppressing the colour enhancement in portions without correlation.

Switch SW3 of the RF 2H DL & C Enhancer board controls this circuit. The switch is set to ON at time of shipment. Although timing of the luminance and colour signals is adjusted with the Enhancer operating, in the OFF state, this is adjusted by R45 of the REC Colour board.

Fig. 1-16 shows the basic circuit.

1.6 AUTO EQUALIZER CIRCUIT

This circuit compensates for the different frequency response in the S-VHS mode due to the tape to head relationship. During recording 3.8 MHz and 625 kHz reference signals are added to the vertical blanking period (set for line 11 at time of shipment) of the video signal. During playback, the RF equalizer gain is varied according to the level difference of these signals in order to compensate the frequency response.

Note the following points regarding operation of this circuit.

1) This circuit functions only in the S-VHS mode.
2) The circuit does not operate if the reference signals are not recorded on the tape.
   * The reference signals are not recorded if FM REC/PB board SW1-1, -2 and -3 are all ON.
3) Regardless of whether or not a signal is present on line 11, in the recording mode, the reference signals are added after one blanking period. Although line 11 is set at the factory, if this line is used for other purposes, a desired line from 11 to 17 can be set by FM REC/PB board SW1-1, -2 and -3.
4) This circuit does not function during playback if the Reference signal recorded line and the line set by FM REC/PB board SW1-1, 1-2 and 1-3 do not agree.
   It is also recommended to indicate on the cassette label which line has the recorded reference signals.
5) In order to avoid reference signal output during playback, blanking is applied to line 11 (or the line selected for this function). The blanking line is also set by FM REC/PB board SW1-1, -2 and -3.

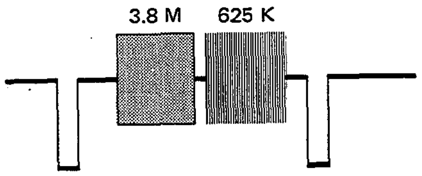


Fig. 1-17 Reference signal

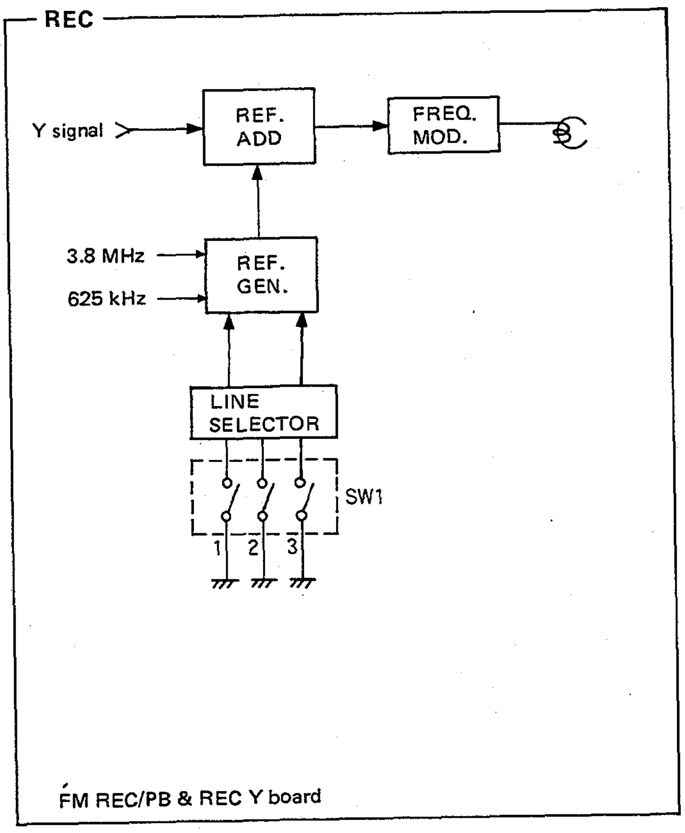

REC
Y signal
REF. ADD
FREQ. MOD.
3.8 MHz
625 kHz
REF. GEN.
LINE SELECTOR
SW1
1
2
3
FM REC/PB & REC Y board

Fig. 1-18

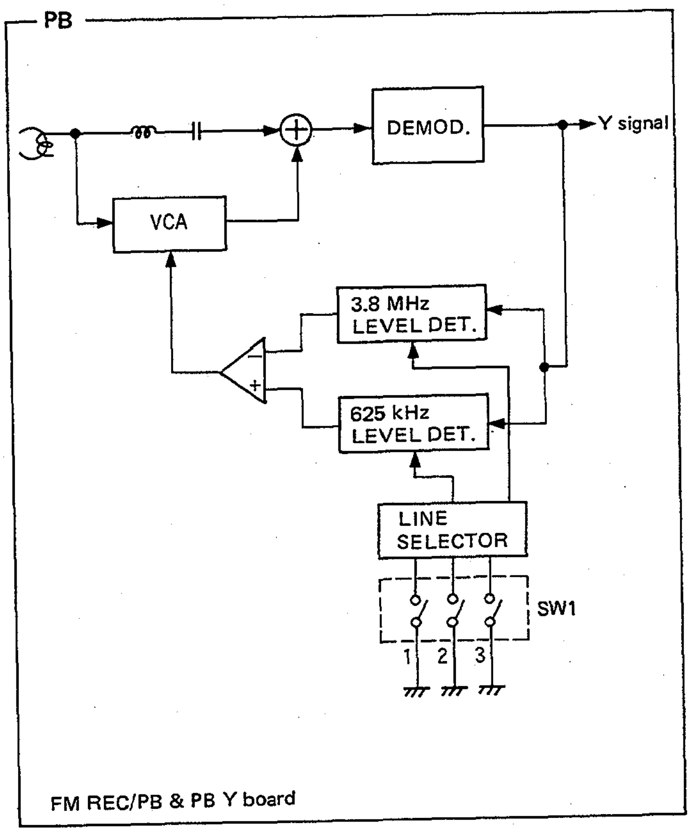

PB
DEMOD.
Y signal
VCA
3.8 MHz LEVEL DET.
625 kHz LEVEL DET.
−
+
LINE SELECTOR
SW1
1
2
3
FM REC/PB & PB Y board

Fig. 1-19

1.7 DUB TERMINAL (7 PIN)

1.7.1 Y/C 443 IN/OUT

Pin No.	Signal	Level	Description
1	Y	1.0 Vp-p	75 Ω
2	Y GND		
3	–	–	–
4	–	–	–
5	C443	0.3 Vp-p (Burst)	75 Ω
6	C443 GND		
7	–	–	–

1.7.2 Y/C 627 IN/OUT

Pin No.	Signal	Level	Description
1	Y	1.0 Vp-p	1 kΩ
2	Y GND		
3	DUB D. FF	Refer to Fig. 1-20	
4	DUB D. FF GND		
5	C627	*0.9 Vp-p	1 kΩ
6	C627 GND		
7	DUB IN CONTROL/ COLOUR FRAME PULSE	Refer to Fig. 1-20	

*Colour level with input of EBU colour bars signal.

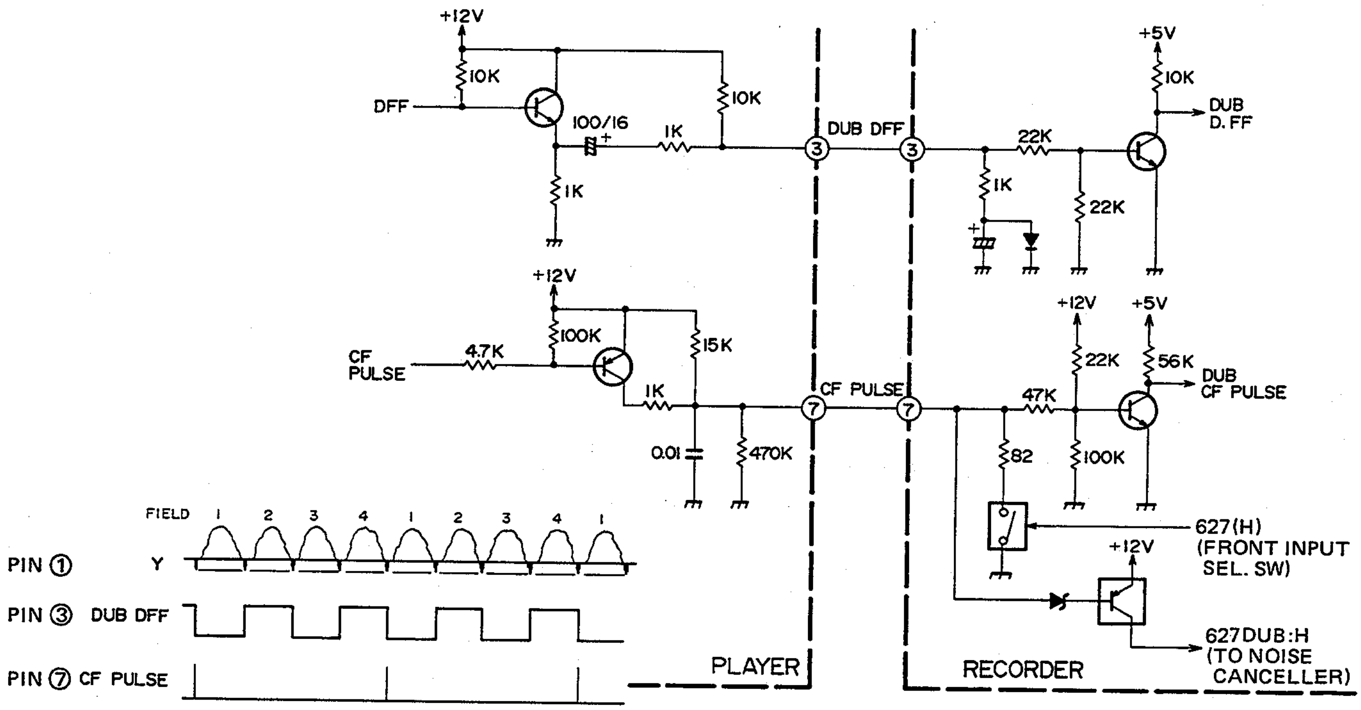

+12V
10K
DFF
10K
100/16
1K
1K
DUB DFF
③
③
+5V
10K
DUB D. FF
22K
1K
22K
+12V
100K
15K
CF PULSE
4.7K
1K
0.01
470K
CF PULSE
⑦
⑦
+12V
+5V
22K
56K
DUB CF PULSE
47K
82
100K
627(H) (FRONT INPUT SEL. SW)
+12V
627DUB:H (TO NOISE CANCELLER)
FIELD 1 2 3 4 1 2 3 4 1
PIN ① Y
PIN ③ DUB DFF
PIN ⑦ CF PULSE
PLAYER
RECORDER

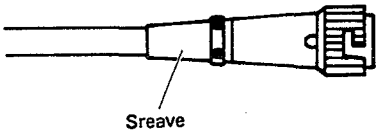
Fig. 1-20
Y/C 627 DUBBING

1.7.3 7-pin to 7 pin DUB cable

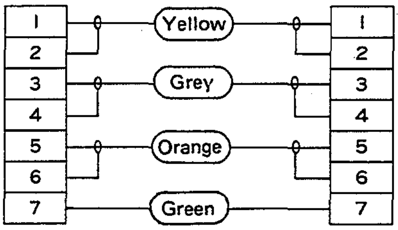
Name	Parts No.	Wiring/Colour of Bushing	Applicable Model
Y/C 924 DUB CABLE	PGZ00376A-1 (Cable provided with PR-900E)	Fig. ④/Gray	PR-900E PR-600E
Y/C 443 DUB CABLE	VC-G10XXU (PGZ00793-00X)	Fig. ③/Blue	BR-S811E/611E BR-S810E/610E BR-S410E/411E KR-M820E/800E
	PGZ00752-01-01 [Cable provided with BR-S811E BR-S611E BR-S810E BR-S610E]	Fig. ②/Red	
Y/C 627 DUB CABLE			BR-S811E/611E BR-S810E/610E
	PGZ00223A (Cable provided with BR-8600E)	Fig. ①/Black	BR-6600E BR-8600E

Note: Make sure to use these cables exclusively for their applications, unless the characteristic of a connected set changes.
In the case different types of VTRs are used as a player and a recorder for editing, etc., make sure to connect them with the cable provided with the VTR used as a player. For instance, if BR-S811E is used as a player while BR-8600E is used as a recorder, use the accessory cable (parts No. PGZ00752-01-01) of BR-S811E.

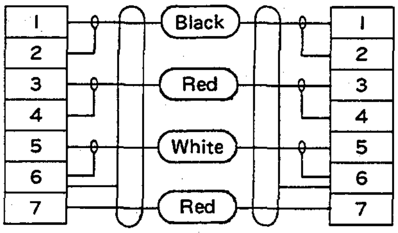
- **Wiring inside cable**



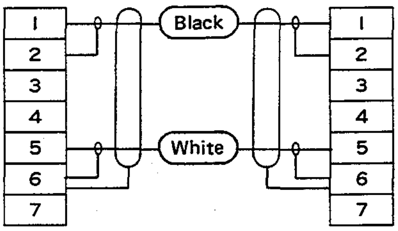
①


1
2
3
4
5
6
7
Yellow
Grey
Orange
Green
1
2
3
4
5
6
7

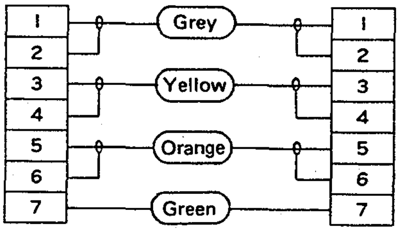
②


1
2
3
4
5
6
7
Black
Red
White
Red
1
2
3
4
5
6
7

③


1
2
3
4
5
6
7
Black
White
1
2
3
4
5
6
7

④


1
2
3
4
5
6
7
Grey
Yellow
Orange
Green
1
2
3
4
5
6
7

1.8 WARNINGS

1. INVALID indication

The INVALID indication is produced mainly in the following states.

(1) Recording (REC, Edit, etc.)
(2) When connected into a system

1) Recording

Attempting to record in S-VHS mode using Normal VHS tape. The INVALID LED lights.

REC MODE SELECT SWTICH	S-VHS				
OPERATION KEY / TAPE	REC	EDIT			
		ASSEMBLY	INSERT		
			VIDEO Hi-Fi AUDIO	AUDIO-1	AUDIO-2 AUD DUB
NORMAL VHS	ON	ON	ON	OFF*	OFF*

ON: Operation inhibited in INVALID mode
OFF: Operation normally

Table 1-2 Invalid mode

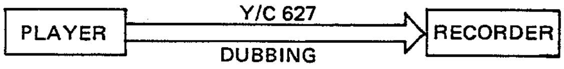
*At insert editing, simultaneously selecting Audio 1 or Audio 2 and Video/Hi-Fi Audio yields the Invalid mode and operation is inhibited.

However, during Audio 1 or Audio 2 insert editing, if the Video/Hi-Fi Audio button is pressed, only Video/Hi-Fi Audio insert is inhibited and Audio 1 or Audio 2 insert editing continues.

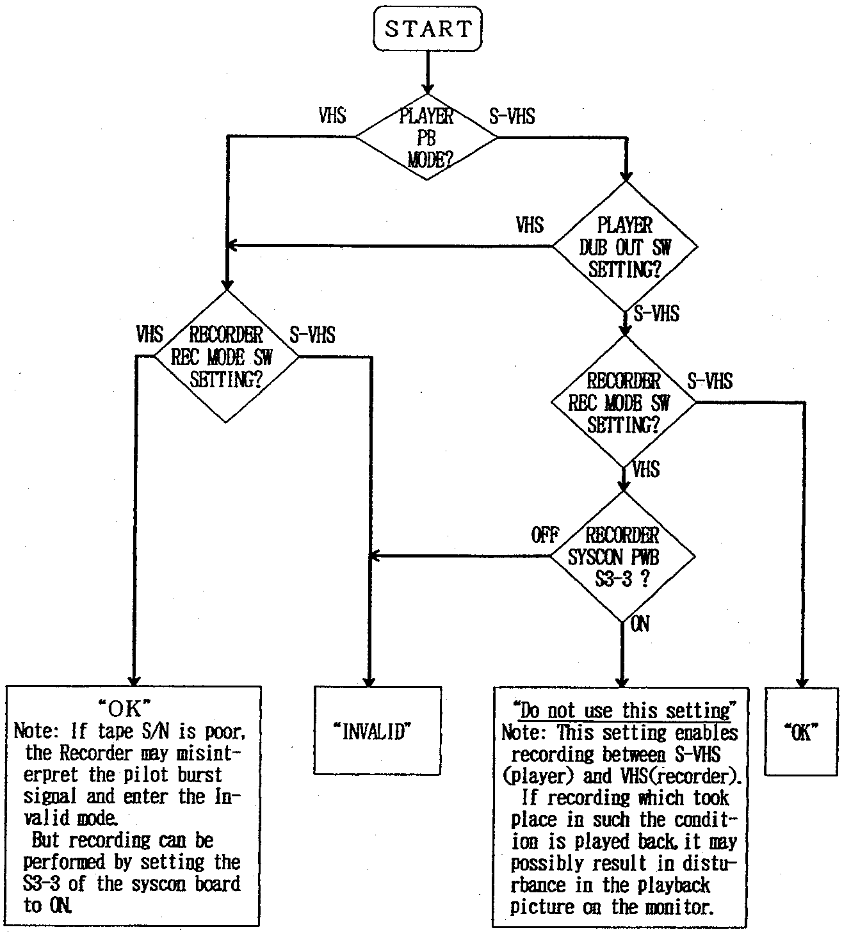
2) System composition

In addition, the Invalid mode will be produced when the BR-S811E/S611E is used at the Recorder side in the following situations.

In the S-VHS mode, pilot burst is added to the down converted chroma signal when recorded on tape (it is not added in the VHS mode). When the BR-S811E/S611E is used as the Recorder in a system such as indicated in the figure, it detects whether the chroma signal is S-VHS or VHS mode.


PLAYER
Y/C 627
DUBBING
RECORDER

If set for VHS mode recording with an S-VHS mode signal (player at S-VHS and Recorder at VHS), or set for S-VHS mode with a VHS mode input, the Recorder BR-S811E/S611E detects Invalid mode and inhibits operation.

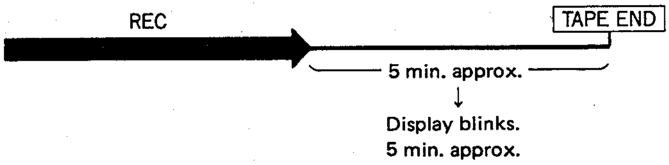

START
PLAYER PB MODE?
VHS
S-VHS
PLAYER DUB OUT SW SETTING?
VHS
S-VHS
RECORDER REC MODE SW SETTING?
VHS
S-VHS
RECORDER REC MODE SW SETTING?
S-VHS
VHS
RECORDER SYSCON PWB S3-3 ?
OFF
ON
"OK"
Note: If tape S/N is poor, the Recorder may misinterpret the pilot burst signal and enter the Invalid mode.
But recording can be performed by setting the S3-3 of the syscon board to ON.
"INVALID"
"Do not use this setting"
Note: This setting enables recording between S-VHS (player) and VHS(recorder).
If recording which took place in such the condition is played back, it may possibly result in disturbance in the playback picture on the monitor.
"OK"

INVALID CHECK

2. Tape End warning (only in REC)

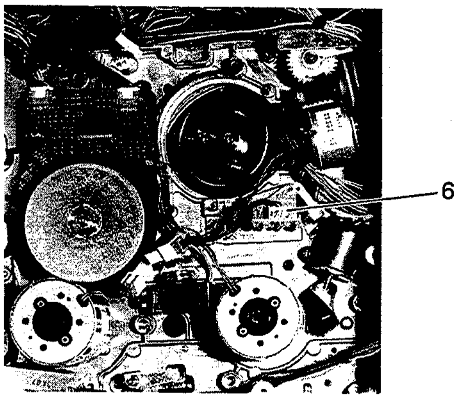
In recording, BR-S811E/BR-S611E warns of tape end by blinking of the display nearly 5 minutes before tape end.

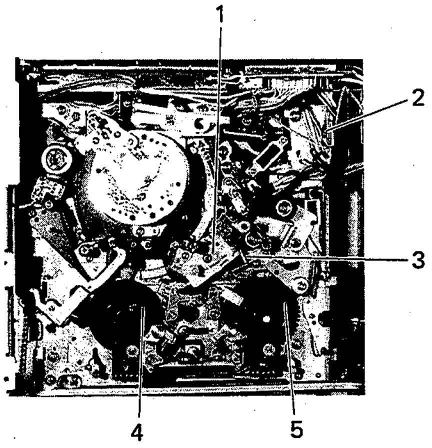
Note: Time to start the warning differs by type of a cassette tape to be used. '5 minutes' is just a standard.

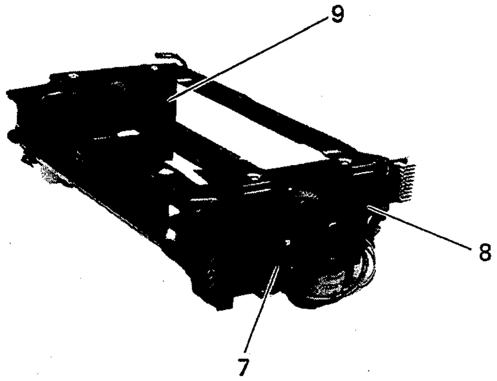

REC
TAPE END
5 min. approx.
Display blinks.
5 min. approx.

3. Warning detection position

No.	Parts Name
1	Sensor LED
2	Dew Sensor
3	Pickout Detector (to detect Half Loading)
4	Supply Photo Interrupter
5	Take-up Photo Interrupter
6	Loading/Unloading Switch
7	Intake/Eject End Switch
8	Tape Beginning Sensor
9	Tape End Sensor







4. Warning indications

The following table shows primary means and detection parts for warning as well as conditions of the set corresponding to the warning indication. For warning conditions in detail, refer to the instruction book.

Warning Indication	Condition/Cause	Signal Level in Warning (for judgment)	Detector (Symbol No.) (see previous page)
01	Disconnection or break-down of the sensor LED (Tape beginning/Tape End)	DRIVER board CN4 Pin 2 : "L"	Sensor LED (1)
02	Dewed	DRIVER board IC2 Pin 6 : "L"	Dew Sensor (2)
04	No power supply (16.5 V) to the reel servo system [SERVO-2 board].	DRIVER board CN9 Pin 7 : "H"	–
05	Abnormal operation of the CPU.	–	–
06	Playback a tape recorded in EP (X3) mode.	–	–
32	No turning on of the loading end switch 5 sec or more after the set enters the loading mode.	DRIVER board CN6 Pin 2 : "H"	Loading End switch (6)
33	No detection of half loading end 6 sec or more after the set enters unloading mode.	DRIVER board CN7 Pin 4 : "L"	Half Loading End detector (3) (Pick Out detector)
36	No detection of half loading end 3 sec or more after the set enters half loading mode.	DRIVER board CN7 Pin 4 : "L"	Half Loading End detector (3) (Pick Out detector)
37	No turning on of the unloading end switch 3 sec or more after the set enters half unloading mode.	DRIVER board CN6 Pin 3 : "H"	Unloading End switch (6)
39	No turning on of the unloading end switch even 5 sec elapses after '32'/'36' of warning indication.	DRIVER board CN6 Pin 3 : "H"	Unloading End switch (6)
40	No turning on of the intake end switch 4 sec or more after the set enters cassette intake mode.	DRIVER board CN5 Pin 5 : "H"	Intake End switch (7)
41	No turning on of the eject end switch 4 sec or more after the set enters eject mode.	DRIVER board CN5 Pin 4 : "H"	Eject End switch (7)
42	No turning on of the intake end switch 4 sec or more after the warning indication '41' is displayed.	DRIVER board CN5 Pin 5 : "H"	Intake End switch (7)
56	Blank detection at tape beginning or tape end.	DRIVER board CN5 Pins 8 & 9 : "H"	Tape End sensor & (9) Tape Beginning Sensor (8)
57	After half loading finishes, although the set enters Auto REW mode by blank detection at tape end, blank is still detected even approx. 3 sec after the mode change.	DRIVER board CN5 Pin 8 : "H"	Tape End sensor (9)
58	After half loading finishes, although the mode changes to Auto FF by blank detection at tape beginning, blank is still detected approx. 3 sec after the mode change.	DRIVER board CN5 Pin 9 : "H"	Tape Beginning sensor (8)
70	Drum motor rotation stops (for 2 sec approx.) and no output of drum pulse.	SYSCON board CN2 Pin 5 : No D FF	–
71	Capstan motor rotation stops (for 2 sec approx.) and no output of capstan pulse.	SYSCON board CN2 Pin 7 : No CAP FG	–
72	Unloading state: Reel motor rotation stops (for 2 sec approx.) and no output of reel FG pulse. Loading state: No output of reel FG pulse while 14 capstan pulses are counted.	SYSCON board CN1 Pin 33B : No SUP REEL FG	Supply Photo Interrupter (4)
73		SYSCON board CN1 Pin 34B : No TU REEL FG	Take-up Photo Interrupter (5)

1.9 CHECK SWITCH SETTINGS WHEN . . .

Symptom	Check
1) Dropouts prominent	PB Y board SW1 OFF and TBC switch ON?
2) Unstable Search picture	PB Y board SW2 OFF or TBC switch ON?
3) Line 11 signal not recorded	Auto equalizer reference signals added to line 11 (see 1.6).
4) Colour sharpness not corrected	RF DL & C ENH board SW3 OFF?
5) In edting system with RM-86/88, the IN point shifts by several seconds.	SYSCON board SW1-1 OFF?
6) "NO CTL" not detected when remote controller is connected	NO CTL switch of remote controller set to OFF? SW1 of 45P CONN board set to CTL?
7) Rainbow noise appears. In the Full REC mode, sound of relay switching is heard.	SYSCON board SW3-8 ON?
8) No recording mode (cassette protector tab present)	VHS tape with REC MODE switch set for S-VHS? SYSCON board SW2-5 ON?
9) FF (REW) produced when Search dial is turned fully left or right	SYSCON board SW1-7 ON?
10) No Audio CH-2 recording	Rear panel TC/AUDIO switch set to TC?
11) No colour when dubbing with 7-pin DUB cable	Cable connect between YC627 OUT (or YC443 OUT) and YC443 IN (or YC627 IN) terminals?
12) No colour when dubbing in Y/C 627 mode	VC-G10XX used for 7-pin cable?
13) REC mode entered at power ON	Rear panel TIMER switch of BR-S611E set to REC?
14) Slow FF/REW speed	SYSCON board SW1-2 ON?
15) When using RM-88, REC Pause is entered if EDIT STOP button is pressed at preroll end	Set SYSCON board SW3-4 to ON.
16) When playing back a tape recorded in the VHS mode, disturbance in the picture is observed on the monitor.	SYSCON board SW3-3 ON? (see 1.8)
17) When RM-G810 is connected, the IN point comes off for 6 frames approx.	MAIN board SW2-4 of RM-G810 OFF?

SECTION 2
MECHANICAL ADJUSTMENT

2.1 FOREWARD

Mechanism adjustments described in this section are only those considered necessary for field services, and some kind of adjustments requiring highly precise equipment and technique are excluded.

Periodical checkup and maintenance are very important to keep the machine with the original performance as well as to prevent tapes from damage.

Adjustments which require specified tools and jigs must be performed with them.

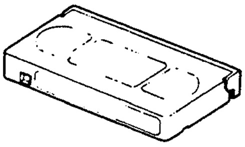
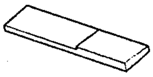
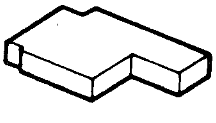
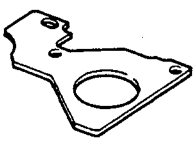
2.2 REQUIRED JIGS AND EQUIPMENT

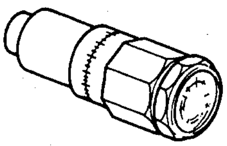
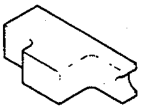
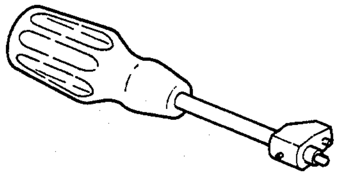
For proper and complete adjustments the following jigs and equipment are necessary.

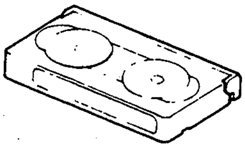
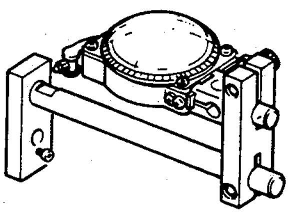
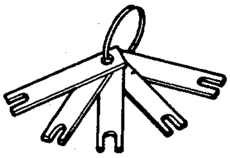
If adjustments are done without those jigs and tools , it takes a long-time trial and error and it ends with unsatisfactory results in accuracy and performance.

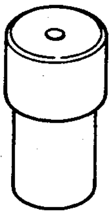
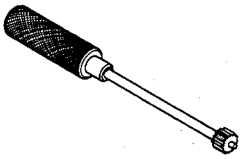
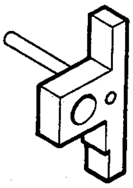
Besides the following, general-purpose tools including hexagonal wrenches (1.5 mm and 2.4 mm) are necessary.

Note: For test equipment and jigs necessary for electrical adjustments, refer to Section 3 "Electrical Adjustment".

Alignment tapes MHPE, MHAE, MH-F8	Parellel check plate PUJ50204	Height gauge PUJ42147-2	Master plane fixture PUJ42146
Refer to 3.1.4 (page 3-4) 			

Torque gauge PUJ48075-3, PUJ48075-2	TU guide height gauge PUJ44650	A/C head positioning jig PUJ47351-2
		

Cassette torque meter PUJ42881, PUJ42881B	Microchecker PUJ49712-2	Gap gauge PUJ48017
		

Reel motor positioning jig PGJ04004	Slide bar adjuster PGJ04009	Tension pole positioning jig *PGJ04021-2
		

*New fixture
PGJ04021-2 can be used for both BR-S810E/BR-S610E.

Table 2-1 Jigs and adjusting equipment

2.3 LOCATION OF MAIN PARTS

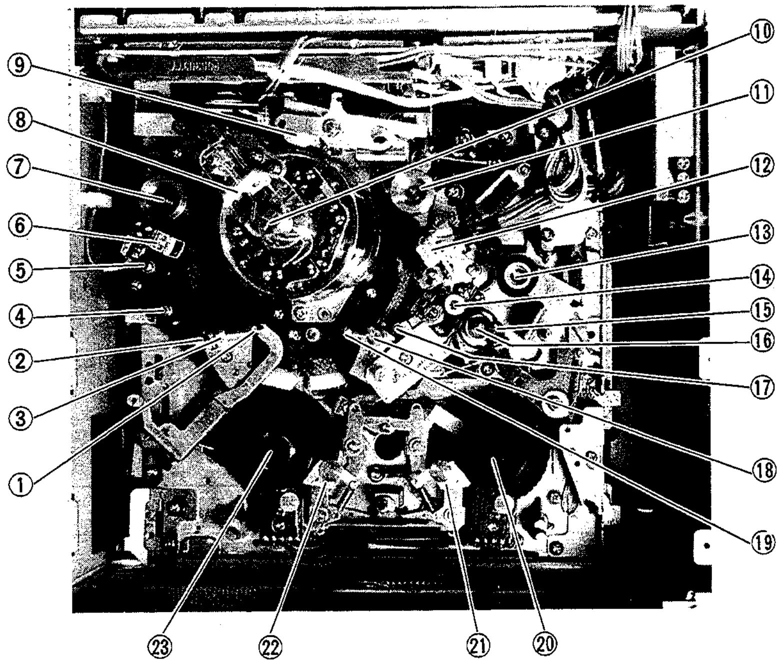


Fig. 2-1

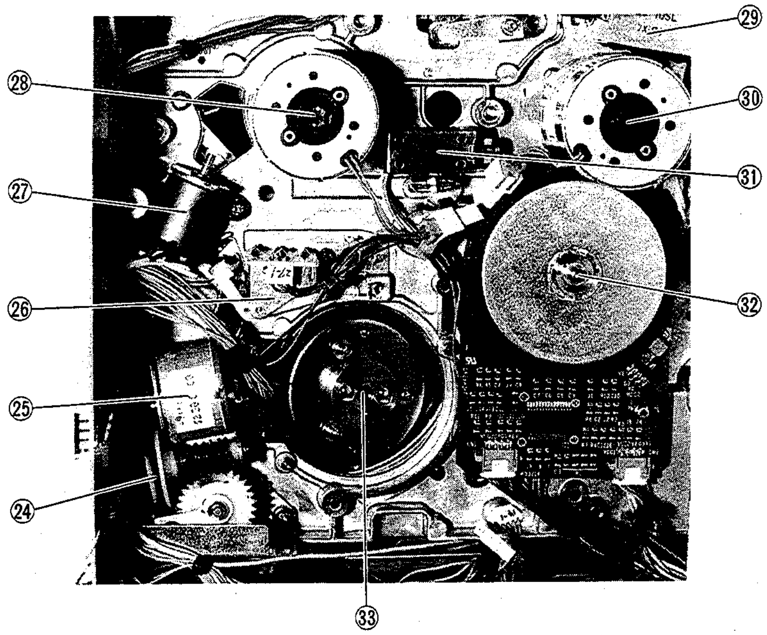


Fig. 2-2

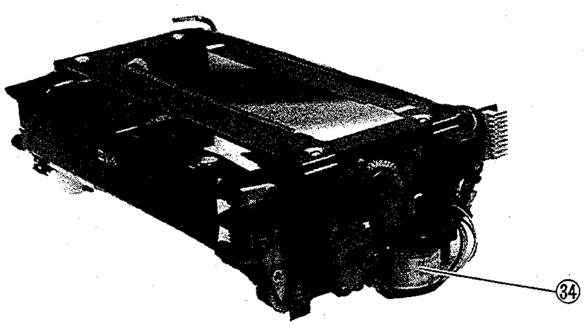


Fig. 2-3

① Tension pole
② Supply guide roller
③ Supply slant pole
④ Supply guide pin
⑤ Supply guide pole
⑥ Full erase head
⑦ Supply impedance roller
⑧ Upper drum assembly
⑨ Head cleaner
⑩ Brush assembly
⑪ Take up impedance roller
⑫ A/C head assembly
⑬ Pinch roller assembly
⑭ Take up tape guide roller
⑮ Take up guide pole
⑯ Capstan shaft
⑰ Half loading pole
⑱ Take up guide roller
⑲ Take up slant pole
⑳ Take up reel disk
㉑ Take up main brake
㉒ Supply main brake
㉓ Supply reel disk
㉔ Loading belt
㉕ Loading motor
㉖ Load/Unload switch
㉗ Differential trans
㉘ Supply reel motor
㉙ Brake solenoid
㉚ Take up reel motor
㉛ BT solenoid
㉜ Capstan motor
㉝ Lower drum assembly
㉞ Cassette housing motor

2.4 SERVICING SCHEDULE FOR MAIN COMPONENTS

System	Parts Name	Parts No.	Periodic Service Schedule (Operating Hours)										Reference Section
			500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
Tape Trans-port System	① Tension pole ③ SUP slant pole ② SUP guide roller ④ SUP guide pin ⑤ SUP guide pole ⑦ SUP impedance roller ⑯ Capstan shaft ⑱ TU guide roller ⑲ TU slant pole ⑪ TU impedance roller ⑭ TU tape guide roller ⑮ TU guide pole ⑰ Half loading pole		★	★	★	★	★	★	★	★	★	★	
	⑥ Full erase head	PU54397	★	★	★	★	★	★	★	★	★	●	
	⑫ A/C head ass'y	PGZ00989	★	★	★	●	★	★	★	●	★	★	2.5.10
	⑧ Upper drum ass'y												
	(BR-S611E)	PDM2088D-12	★	●	★	●	★	●	★	●	★		2.5.3
	(BR-S811E)	PDM2088B-12	★	●	★	●	★	●	★	●	★		
	⑧ Drum ass'y												
	㉝ (BR-S611E)	PDV2192B	★	★	★	★	★	★	★	★	★	●	2.5.4
	⑩ (BR-S811E)	PDV2191A	★	★	★	★	★	★	★	★	★	●	
	⑬ Pinch roller ass'y	PQ40137A	★	★	★	●	★	★	★	●	★	★	
Drive System	㉘ SUP reel motor	PGZ00869				●				●			2.5.7
	㉚ TU reel motor	PGZ00869				●				●			2.5.8
	㉜ Capstan motor	PGZ00735-01-02								●			2.5.6
	㉞ Cassette housing motor	PQ40090A										●	2.5.1
	㉕ Loading motor	PU52745A										●	2.5.9
	㉔ Loading belt	PU50350				●				●			
Others	⑩ Bursh ass'y (BR-S611E)	PDM4162B											2.5.3
	(BR-S811E)	PDM4154A-1											2.5.2
	⑨ Head cleaner	PRD40510-01-02	○	●	○	●	○	●	○	●	○	●	
	– Hour meter	PGZ01032		●		●		●		●		●	

★ Cleaning ○ Check ● Replacement

Note:
- The above schedule is just a reference for machines used in an average condition.
- Life time of the upper drum greatly depends on working conditions.

Table 2-2 Periodical servicing schedule

2.5 MAIN PARTS REPLACEMENT

When replacing parts, remove external covers, circuit boards, shield covers, cassette housing, etc., as required.

2.5.1 Cassette housing removal

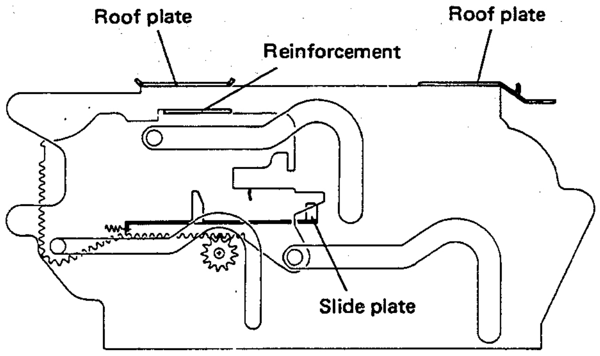

Roof plate
Roof plate
Reinforcement
Slide plate

Fig. 2-4 Cassette housing

1. Cassette housing removal
1) Disconnect the connectors of the cassette housing board.
2) Remove the mounting screws of the front panel. Shift the top of the front panel forward to facilitate removing the cassette housing.
3) Take out 4 screws ①. Carefully lift the cassette housing upward to remove it.

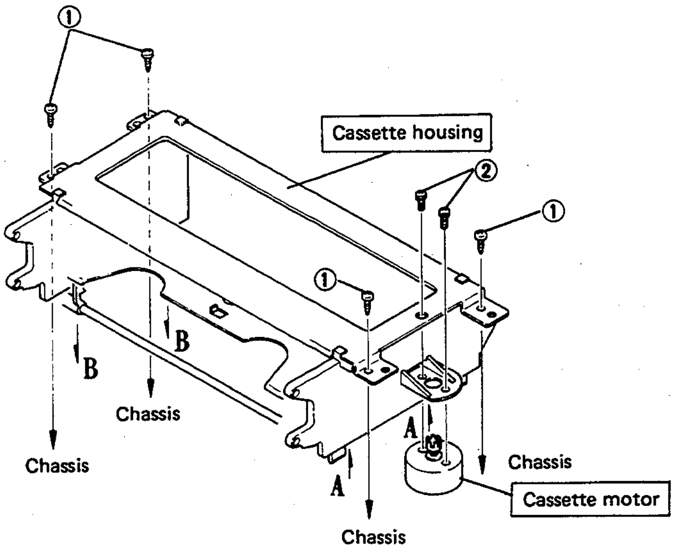

①
Cassette housing
②
①
①
B
B
Chassis
Chassis
A
A
Chassis
Cassette motor
Chassis

Fig. 2-5 Removing cassette housing

- Operation preset

This configuration allows operating the mechanism with the cassette housing removed. Perform as follows.

a) Place the cassette housing upside down on the rear bracket, as shown in Fig. 2-6. Engage the connectors of the cassette housing with the cassette housing board.
b) Insert cassette and perform loading.
c) After completion of loading and the sensors are enabled, use the operation switches to select the desired modes.

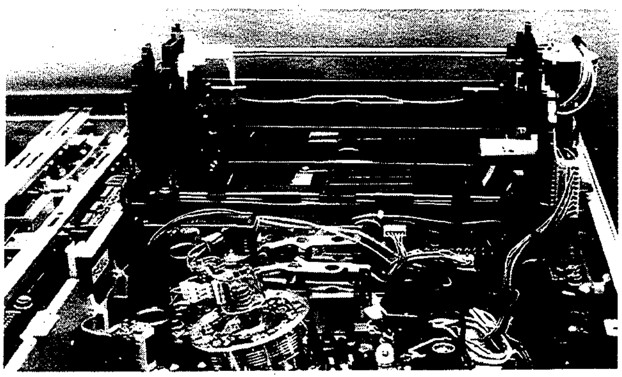


Fig. 2-6 Mechanism operation

2. Cassette motor
1) Remove the cassette housing. Quickly unsolder the wires of the cassette motor.
2) Take out 2 screws ② and replace the cassette motor (see Fig. 2-5).
3) Use care regarding motor wire polarity and reassemble by reversing the above steps.

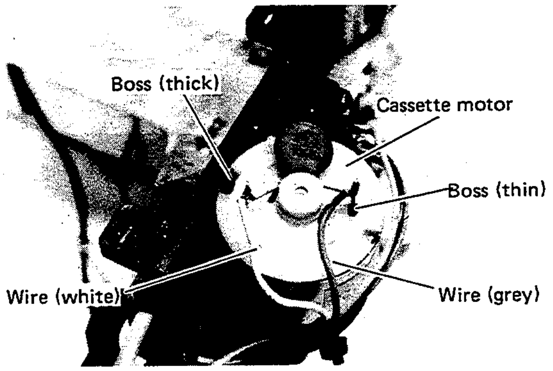

Boss (thick)
Cassette motor
Boss (thin)
Wire (white)
Wire (grey)

Fig. 2-7 Cassette motor wiring

2.5.2 Brush assembly (BR-S811E only)

– Height and Contact pressure adjustments –

Note: After the brush assembly was temporarily removed or replaced with new one, adjustment of its height and contact pressure is needed.

1. Tighten the screws Ⓒ as the tip of the brush ass'y slightly contacts with the slip ring.
2. Confirm that the brush's tip is located in the center of the slip ring's groove.
3. If not, adjust it as follows.
    a) Loosen the setscrew Ⓐ.
    b) Adjust the brush's position by hand to position it correctly as mentioned above.
    c) Tighten the setscrew Ⓐ.
4. In the above condition 1 (brush's tip slightly contacts slip ring), tighten the setscrew Ⓑ just by 5/8 turn.

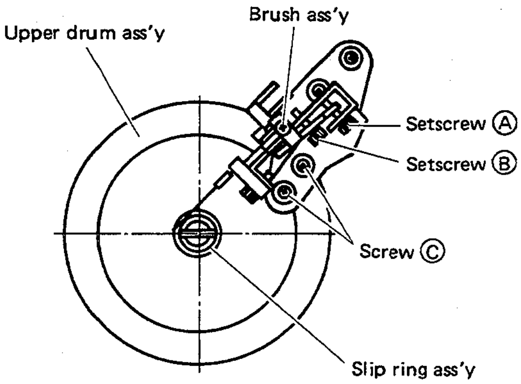

Upper drum ass'y
Brush ass'y
Setscrew Ⓐ
Setscrew Ⓑ
Screw Ⓒ
Slip ring ass'y

Fig. 2-8 (a)

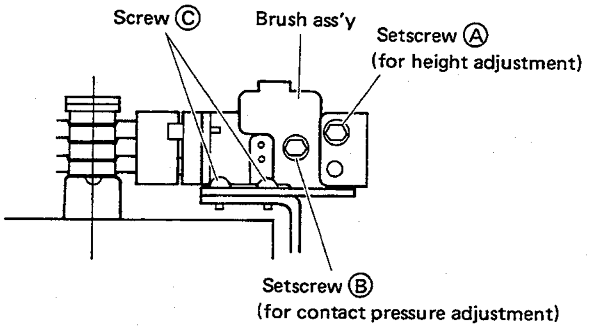

Screw Ⓒ
Brush ass'y
Setscrew Ⓐ
(for height adjustment)
Setscrew Ⓑ
(for contact pressure adjustment)

Fig. 2-8 (b)

2.5.3 Upper drum

1. Remove the cassette housing.
2. Take out two screws Ⓒ and remove the brush assembly.
   [BR-S811E only]
   Next, take out two screws Ⓖ and remove the bracket.
3. [BR-S811E only]
   Unsolder the three slip ring wires (red, yellow, orange).

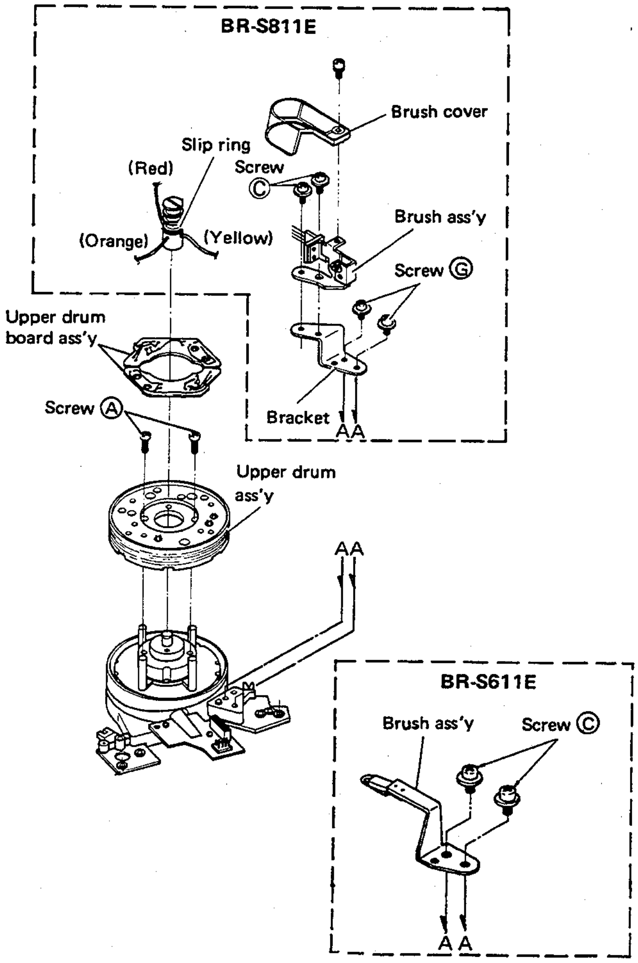

BR-S811E
Brush cover
Slip ring
(Red)
Screw
Ⓒ
Brush ass'y
(Orange)
(Yellow)
Screw Ⓖ
Upper drum board ass'y
Screw Ⓐ
Bracket
AA
Upper drum ass'y
AA
BR-S611E
Brush ass'y
Screw Ⓒ
AA

Fig. 2-9

4. Unsolder the upper drum board ass'y at the points of Ⓔ and Ⓓ (Fig. 2-10) and take out the board.
   Reference: In such a case of removing the upper drum board together with the upper drum for replacement of the lower drum, etc., unsolder at the point Ⓔ only.

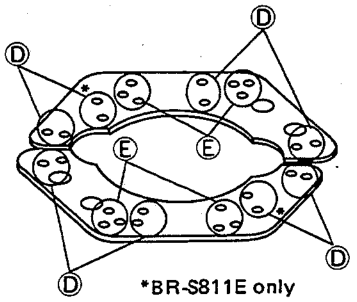


Fig. 2-10

5. Take out two screws Ⓐ and remove the upper drum in the upward direction.
6. Use alcohol to clean the lower face of a new upper drum and the upper face of the lower drum to avoid any gap between them.
7. Install a new upper drum.
   (Upper drum screw tightening torque = 4.5 to 5.0 kg-cm)

   Note: Use care of positioning the upper drum when installing it.
   As shown in Fig. 2-11, the hole "A" (2.7 mm dia.) of the upper drum and hole "B" (1.6 mm dia.) of the flywheel must be positioned squarely at the angle of 180°.

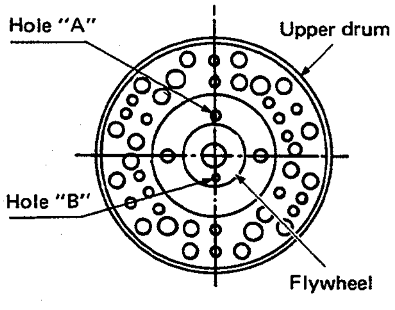


Fig. 2-11

8. Adjust the upper drum eccentricity (see Section 2.5.5).
9. When installing, observe that the silk-screened indicator Ⓕ of the upper drum board is in the same direction as the 2.7 mm diameter hole of the upper drum.

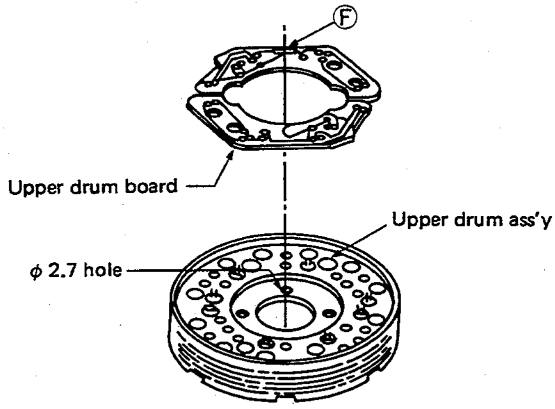


Fig. 2-12

10. [BR-S811E only]
    Reconnect the three slip ring wires (red, yellow, orange).
11. Install the brush ass'y.

BR-S811E (see Section 2.5.2)

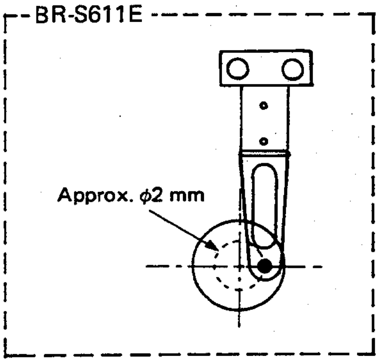


Fig. 2-13

12. Perform the following checks and adjustments.
    1) Tape transport system (Section 2.7)
    2) Switching point (Section 3.3.3, 3.3.4)
    3) Tracking preset (Section 3.3.11)
    4) RF circuit (Section 3.5.3)
    5) S-VHS mode frequency responce (Section 3.5.4 No.9)
    6) VHS mode frequency responce (Section 3.5.4 No. 10)

2.5.4 Lower drum or Drum assy

Note: The lower drum and drum motor cannot be replaced separately.

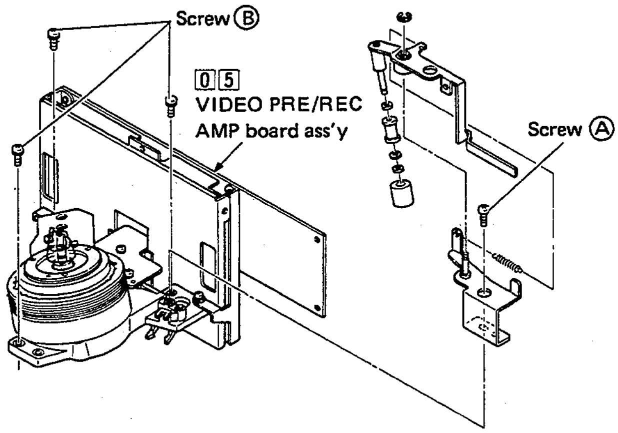


Fig. 2-14

1. Disengage the connector (15-pin) from the lower drum ass'y (from the bottom side).
2. Remove the cassette housing.
3. Take out the screws Ⓐ and remove the cleaner ass'y.
4. Remove the VIDEO PRE/REC AMP board. (For replacing the lower drum, temporarily remove the upper drum.) (See Section 2.5.3).
5. Take out three screws Ⓑ and remove the drum ass'y in the upward direction.
6. Reassemble by reversing the above steps. Use care not to scratch the new lower drum or drum assy.

8. After replacing, perform the following checks and adjustments.
   1) Upper drum eccentricity (Section 2.5.5) (Only when the lower drum is replaced.)
   2) Brush ass'y height and contact pressure (Sect. 2.5.2) (Only when the lower drum is replaced.)
   3) Tape transport system (Section 2.7)
   4) Switching point (Section 3.3.3, 3.3.4)
   5) Tracking preset (Section 3.3.11)
   6) RF circuit (Section 3.5.3)
   7) S-VHS mode frequency response (Section 3.5.4 No. 9)
   8) VHS mode frequency responce (Section 3.5.4 No. 10)

2.5.5 Upper drum eccentricity

Jitter and other problems may occur if the upper drum center is even slightly deviated from the drum shaft. Be sure to perform eccentricity check after replacing the upper drum.

1. Perform operation preset (Section 2.5.1) and set for the Play mode.
2. After loading, set power OFF.
3. Remove the earth plate. Set the Microchecker with the holder aligned with the guide pin and tighten the securing screw.
4. Slowly turn the calibrating knob of the Microchecker clockwise to set the needle the "0" scale indication. The outer rim can also adjust for ±10 scale divisions. But do not turn it more than this range.
   The Microchecker probe should contact the head drum between the 1st and 2nd groove (counting from top).
5. Slowly turn the upper drum while using care not to apply pressure to it (e.g., use a toothpick, etc.). Needle deflection within 2 microns (±1.0 microns) is required.
6. If deflection exceeds 2 microns, turn the calibrating knob counterclockwise to separate the Microchecker probe from the upper drum. Loosen the 2 screws that secure the upper drum and correct the mounting position by just a small amount, then tighten the screws.
7. Again measure the eccentricity. Repeat this process until the deflection is within 2 microns.

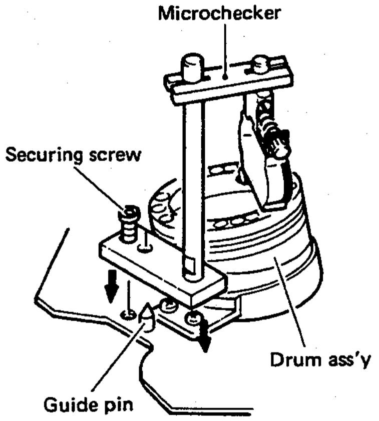
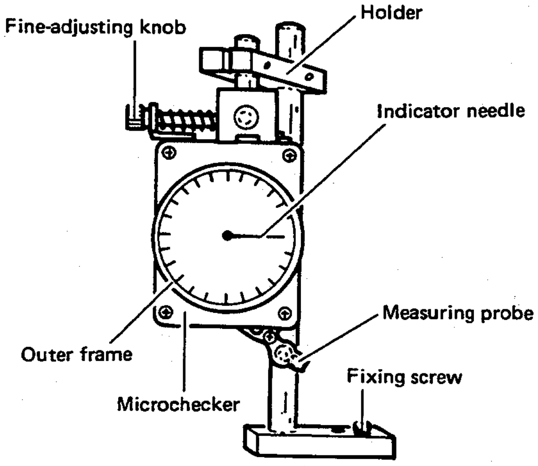


Fig. 2-15 Microchecker setting

8. After confirming eccentricity within 2 microns, turn the calibrating knob counterclockwise and remove the Microchecker.
9. Supply power and set for the Stop mode.
10. Connect an oscilloscope to the V-RF front service point.
11. Operate the TRACKING control and confirm that the CH1 and CH2 FM waveforms reach maximum simultaneously.
12. If abnormal, remove the upper drum and clean the lower face of the upper drum and the upper face of the lower drum flywheel. Then repeat above steps 1 through 11.

Microchecker handling

1. The Microchecker is a high precision instrument. Do not subject it to vibration or shock.
2. Do not apply unnecessary force to the measuring probe.
3. The meter and holder position and direction have been pre-adjusted. Do not disassemble or disturb the adjustment.
4. The meter outer rim can be turned about ±10 scale divisions. Do not turn it forcibly (more than 300 g-cm).
5. Use care that the Microchecker does not directly contact the upper drum (particularly the video heads).
6. Before setting the Microchecker, turn the calibration knob counterclockwise. Avoid contacting the upper drum when setting.
7. When setting, confirm that the measuring probe operating direction is centered on the upper drum.
8. If rubbing or grating sound occurs during measurement, the setting is incorrect. Also check for contamination of the upper drum and measuring probe.
9. Since the instrument is set while the loading arm is extended, power must not be supplied while the Microchecker is being used.



Microchecker

2.5.6 Capstan motor

Note: The capstan motor assembly includes the capstan, capstan FG and flywheel. These cannot be replaced individually.

1. Remove the cassette housing, then remove the LED holder and the pick out detector board.
2. Remove the bottom cover and open the driver board.
3. Disconnect the capstan motor connector (rear of main deck).
4. Take out 3 screws of the main deck and remove the capstan motor assembly.
5. Install the new capstan motor assembly by reversing the above steps.

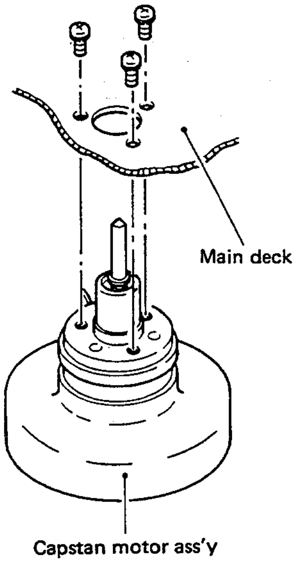

Main deck
Capstan motor ass'y

Fig. 2-16 Capstan motor assembly

2.5.7 Supply reel motor

1. Remove the cassette housing.
2. Remove a screw Ⓐ and the E-ring. Then remove the SUP reel FG board and the supply brake.
3. Loosen the lower setscrew of the supply reel disk and remove the reel disk in the upward direction.
4. Disconnect the reel motor connector (rear of main deck). Take out 4 screws Ⓑ and remove the reel motor.
5. Install the new supply reel motor by reversing the above
6. steps.
7. Perform reel disk height adjustment (see Section 2.6.2).

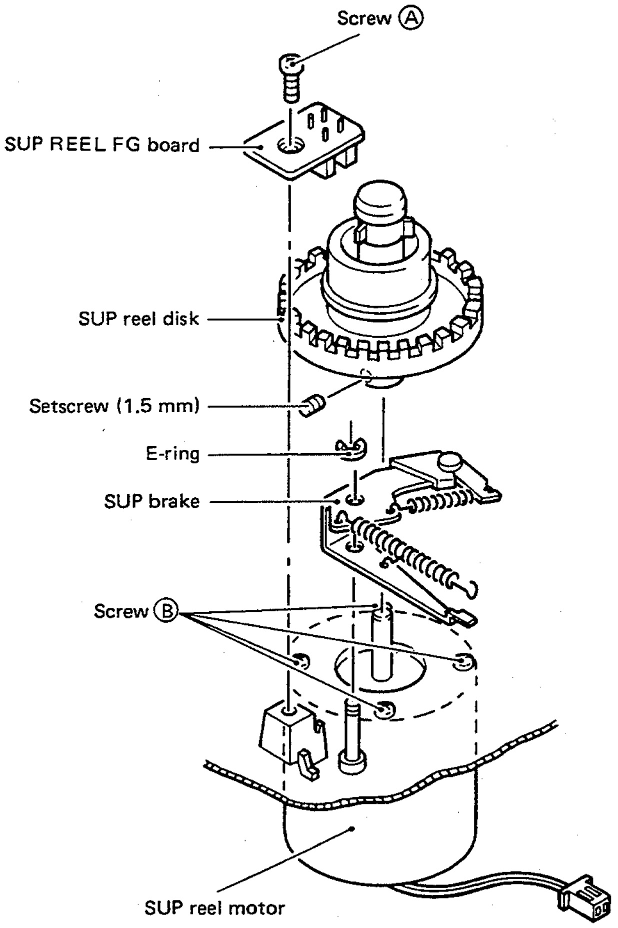

Screw Ⓐ
SUP REEL FG board
SUP reel disk
Setscrew (1.5 mm)
E-ring
SUP brake
Screw Ⓑ
SUP reel motor

Fig. 2-17 SUP reel motor

2.5.8 Take-up reel motor

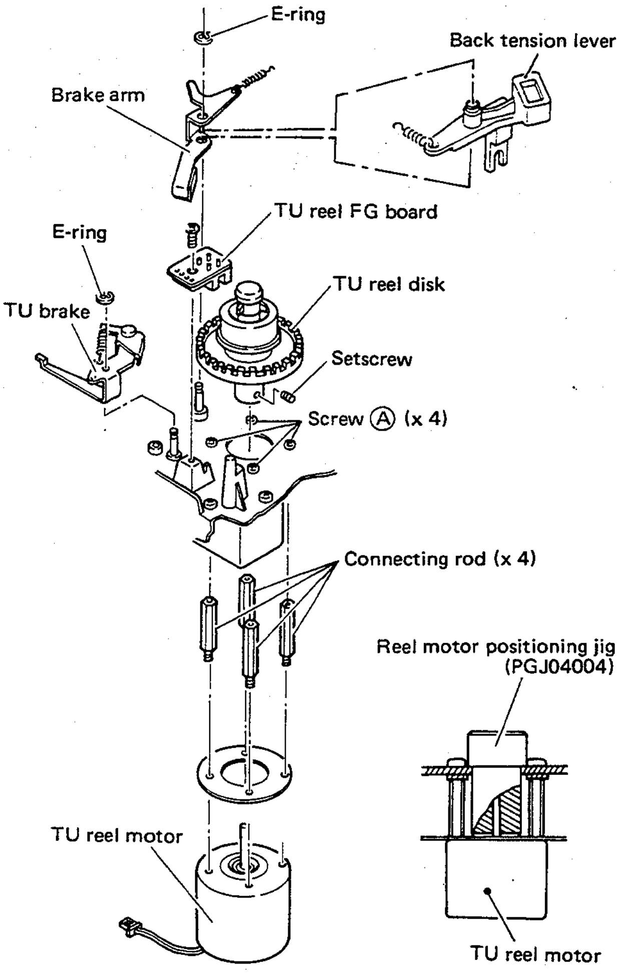

E-ring
Back tension lever
Brake arm
TU reel FG board
E-ring
TU reel disk
TU brake
Setscrew
Screw Ⓐ (x 4)
Connecting rod (x 4)
Reel motor positioning jig (PGJ04004)
TU reel motor
TU reel motor

Fig. 2-18

1. Remove the cassette housing.
2. Temporarily remove the TU REEL FG board, brake arm, take-up brake and back tension lever.
3. Insert a hexagonal wrench between the take-up and supply reel motors. Loosen the setscrew of the take-up reel disk and remove the disk in the upward direction.

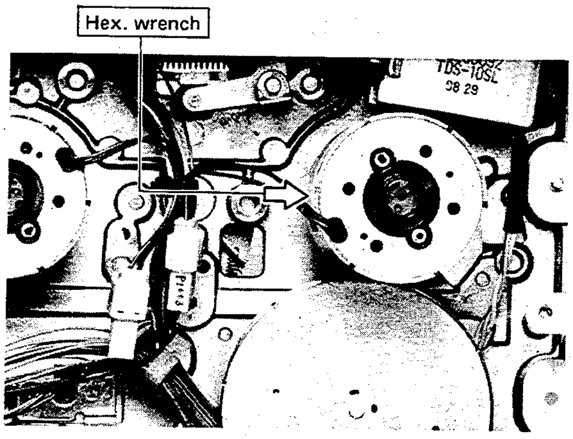

Hex. wrench
TDS-10SL
98 29

Fig. 2-19

4. Disconnect the reel motor connector.
5. Take out 4 screws Ⓐ and remove the reel motor.
6. Remove the 4 connecting rods and replace the reel motor.
7. Use the Reel Motor Positioning jig (PGJ04004) and install the new reel motor to the main deck.
8. Perform reel disk adjustment (Section 2.6.2).

2.5.9 Loading drive gear assembly and loading motor

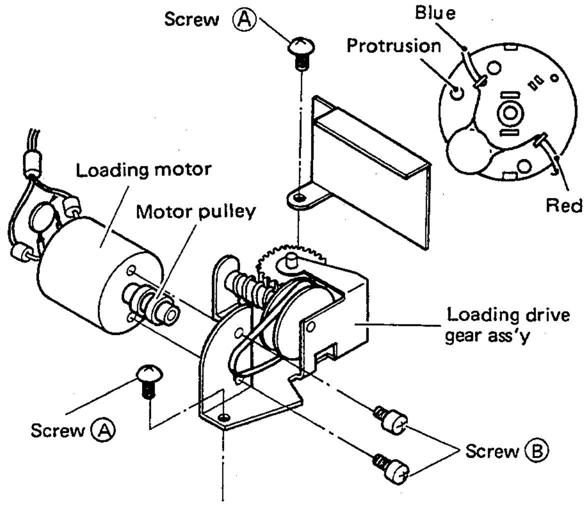

Screw Ⓐ
Blue
Protrusion
Loading motor
Motor pulley
Red
Loading drive gear ass'y
Screw Ⓐ
Screw Ⓑ

Fig. 2-20 Loading drive gear ass'y/Loading motor

Note: Before replacing the loading motor, carefully observe its mounting direction and wire polarities.

1. Take out 2 screws Ⓐ and remove the laoding drive gear assembly.
2. Remove wires from the motor.
3. If replacing the loading drive gear assembly, reassemble by reversing the above steps, then proceed to Step 7.
4. Disengage the belt from the pulley. Loosen 2 screws Ⓑ and remove the motor from the loading drive gear ass'y.
5. Observe the motor wire polarities. Then install a new motor by reversing the above steps.
6. Move the pole base of the sub-deck by hand to the loading complete position, then install the loading gear ass'y.

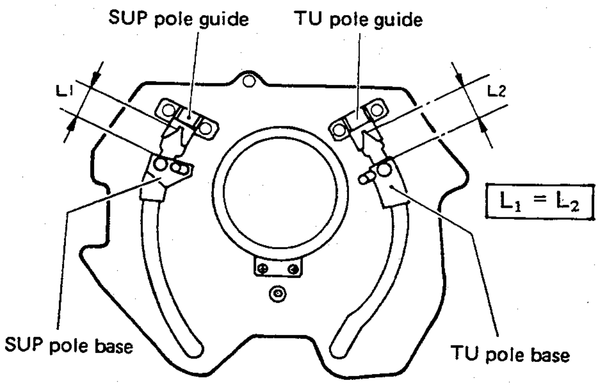

SUP pole guide
TU pole guide
L1
L2
L1 = L2
SUP pole base
TU pole base

Fig. 2-21 Loading ring check (L_1 = L2)

8. Turn the motor by hand to shift the loading rings slightly in the unloading direction. Confirm that the pole bases of the supply and take-up sides are evenly spaced (Fig. 2-21).

Note: If the pole bases cannot be moved by hand, check the pole base whether it is caught by the half-loading pole or not. If so, move the TU pole base to the unloading end position once, and then move the SUP pole base first.

9. If not even, remove and reinstall the loading gear assembly.

2.5.10 Audio control (A/C) head assembly

1. Take out a screw Ⓓ and remove the shield and washer. (Make sure to wipe out screw sealant.)
2. Take out screws Ⓐ, Ⓑ and Ⓒ. Then remove the A/C head assembly. Use care not to misplace the coil springs.
3. Remove the A/C head board.
4. Replace the A/C head assembly and reassemble by reversing the above steps.
   Note: Be the most careful of setting the shield since it may possibly contact with the half-loading pole depending on the setting position.
   (For the setting, refer to Section 2.8.9.)
5. Perform the following checks and adjustments.
   1) Tape transport (Section 2.7)
   2) A/C head height (Section 2.8.4)
   3) A/C head azimuth (Section 2.8.5)
   4) A/C head position (Section 2.8.6)
   5) Interchangeability (Section 2.8)
   6) Audio system electrical adjustments (Section 3.4.4—10)
6. Adjust setting position of the A/C head's shield (see Section 2.8.9)

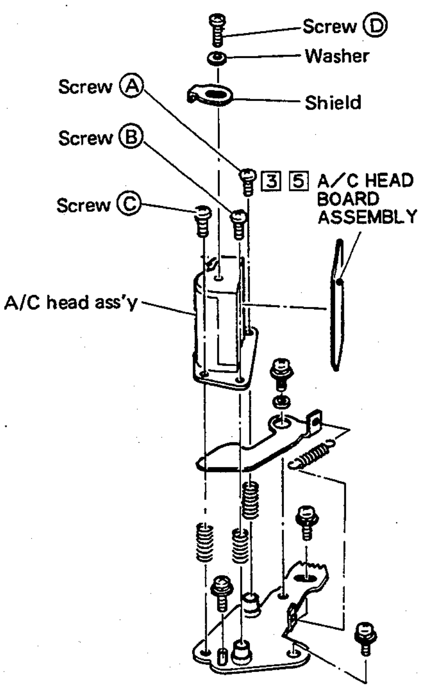

Screw Ⓓ
Washer
Screw Ⓐ
Shield
Screw Ⓑ
3 5 A/C HEAD BOARD ASSEMBLY
Screw Ⓒ
A/C head ass'y

Fig. 2-22 A/C head ass'y

2.6 GENERAL ADJUSTMENTS

2.6.1 Master plane fixture (PUJ42146)

1. Remove the cassette housing.
2. As shown in Fig. 2-23, set the master plane fixture with the two shafts and stud as references.

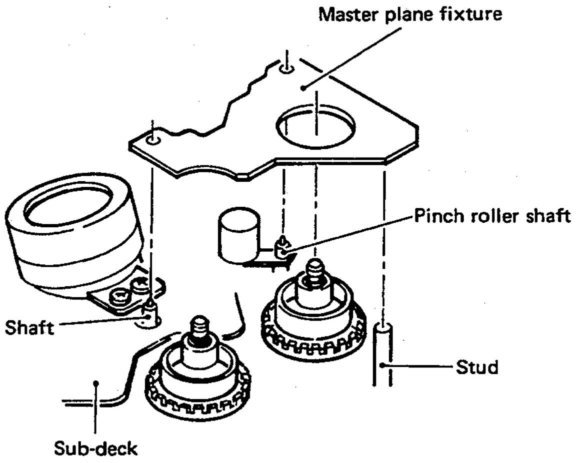

Master plane fixture
Pinch roller shaft
Shaft
Stud
Sub-deck

Fig. 2-23 Master plane fixture

2.6.2 Reel disk height

1. Set the master plane fixture.
2. Measure the reel disk height in two perpendicular directions. As shown in Fig. 2-24, confirm position between height gauge planes A and B.
3. If adjustment is required, loosen the setscrew and adjust the reel disk height.

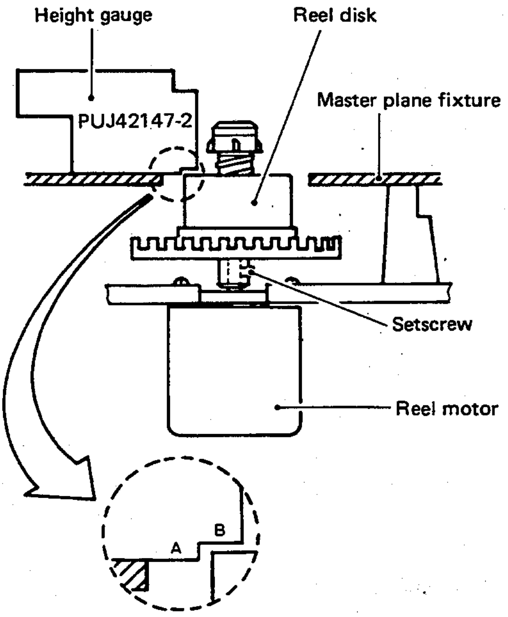

Height gauge
Reel disk
Master plane fixture
PUJ42147-2
Setscrew
Reel motor
A
B

Fig. 2-24 Reel disk height

2.6.3 Supply guide pole height

1. Set the height gauge (PUJ42147-2) on the sub-deck. Check the height of the guide pole lower flange.
2. If adjustment is required, turn the nut and adjust the supply guide pole height.
3. If height is adjusted, perform tape transport system checks (Section 2.7).

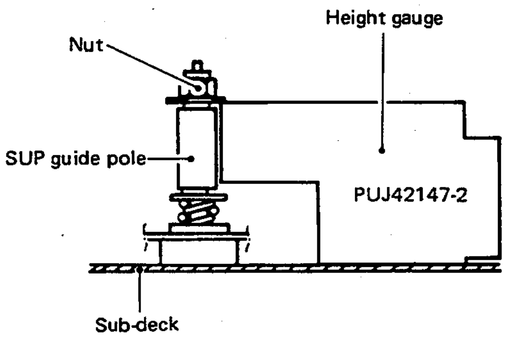

Height gauge
Nut
SUP guide pole
PUJ42147-2
Sub-deck

Fig. 2-25 SUP guide pole height

2.6.4 Take-up (TU) guide roller height

1. By use of the master plane fixture and take-up guide height gauge (PUJ44650), check the height of the lower flange of the TU guide roller.
2. If adjustment is required, loosen the setscrew located on the bottom of the TU guide roller and turn the screw on the top to adjust the height.
3. If height is adjusted, perform the tape transport system checks (Section 2.7).

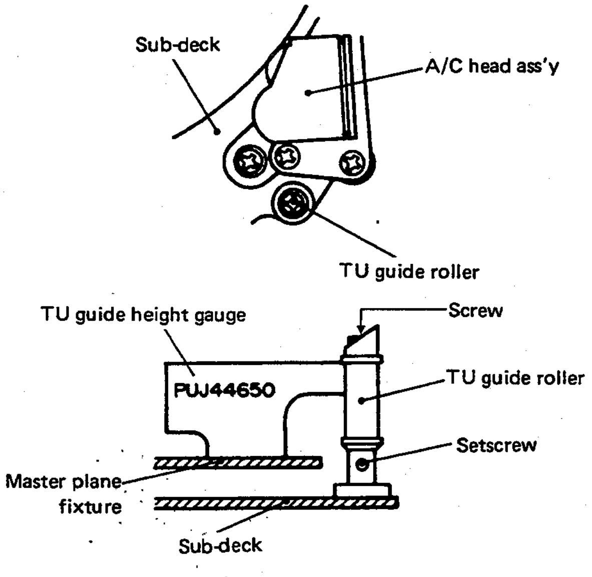

Sub-deck
A/C head ass'y
TU guide roller
TU guide height gauge
Screw
PUJ44650
TU guide roller
Setscrew
Master plane fixture
Sub-deck

Fig. 2-26 Tape guide height

2.6.5 Take-up guide roller parallel

1. Use the flat face of the parallel check plate (PUJ50204). Set this in contact with the capstan shaft and take-up guide roller.
2. Confirm parallel accuracy of within 0.05 mm between the capstan shaft and take-up tape guide roller.

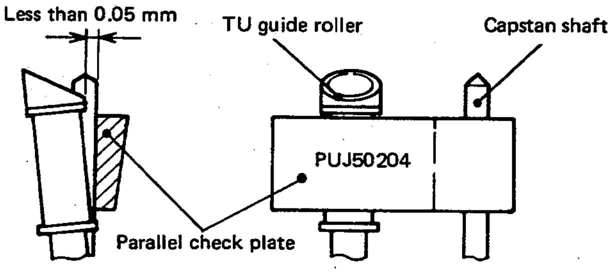

Less than 0.05 mm
TU guide roller
Capstan shaft
PUJ50204
Parallel check plate

Fig. 2-27 Take-up guide roller parallel

2.6.6 Pinch roller

1. By hand, move the pinch roller pressure arm in the direction A to where the pinch roller gently contacts the capstan shaft.
2. Confirm parallel accuracy of better than 0.05 mm between the pinch roller and capstan.

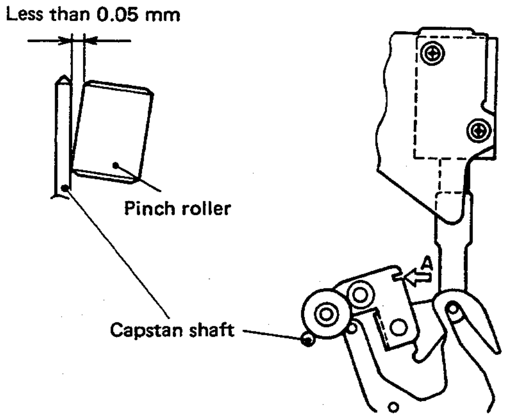

Less than 0.05 mm
Pinch roller
A
Capstan shaft

Fig. 2-28 Pinch roller

2.6.7 Differential transformer positioning

Note: The clearance is more easily checked from the bottom side.

1. Referring to section 2.5.1, use a cassette tape, supply power and set for the Play mode.
2. Turn off the power after completion of loading.
3. Confirm that the clearance between the E-ring and differential transformer is 0~0.1 mm when the tension arm is in contact with the base of supply guide pin.
4. If not , adjust by turning the socket bolt with a 2.4 hex key.

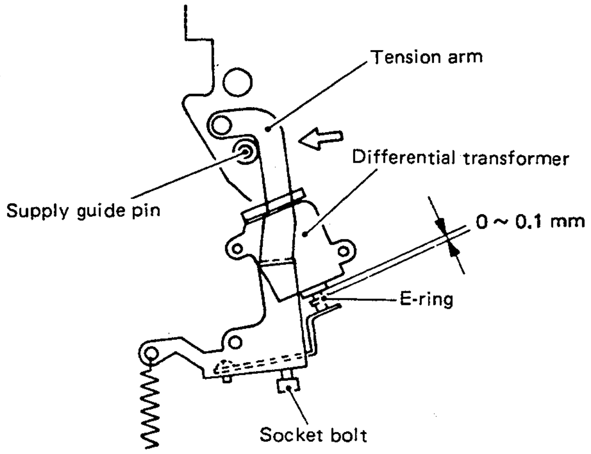

Tension arm
Differential transformer
Supply guide pin
0 ~ 0.1 mm
E-ring
Socket bolt

Fig. 2-29 Differential trans.

2.6.8 Pinch roller solenoid

1. Referring to section 2.5.1, insert a cassette tape, supply power and set for the Play mode.
2. Confirm that the space between the solenoid lever and spring is 0.5~1 mm.
3. If necessary, adjust solenoid position by loosening the two screws, then tighten the two screws again.

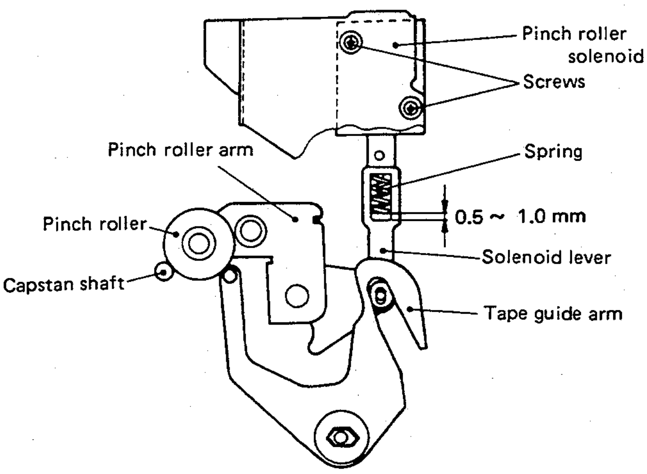

Pinch roller solenoid
Screws
Pinch roller arm
Spring
Pinch roller
0.5 ~ 1.0 mm
Solenoid lever
Capstan shaft
Tape guide arm

Fig. 2-30 Pinch roller solenoid

2.6.9 Tension pole perpendicularity

1. In operation preset, after the play mode is attained, set power OFF.
2. Set the height gauge on the sub-deck. Move the tension arm in the direction B to where the tension pole gently touches the height gauge.
3. Confirm that perpendicularity between the tension pole and height gauge is within 0.05 mm.

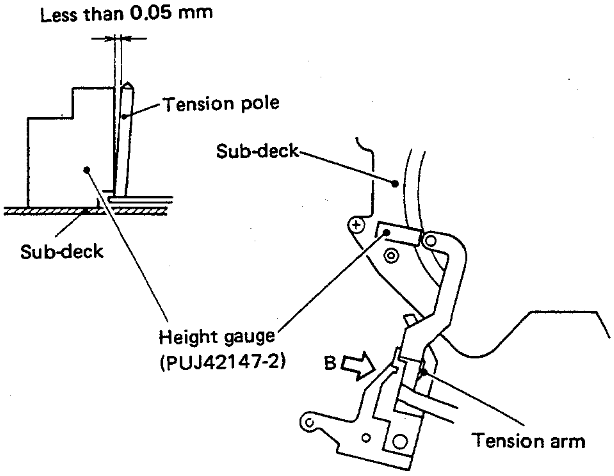

Less than 0.05 mm
Tension pole
Sub-deck
Sub-deck
Height gauge
(PUJ42147-2)
B
Tension arm

Fig. 2-31 Tension pole perpendicularity

2.6.10 A/C head parallel

1. Use the parallel check plate (PUJ50204).
2. As shown in Fig. 2-32, gently contact the A/C head with the parallel check plate. Confirm that inclination such as shown by A is within 0.1 mm.
3. Set the flat portion of the check plate against the A/C head. Confirm absence of space such as indicated by B.

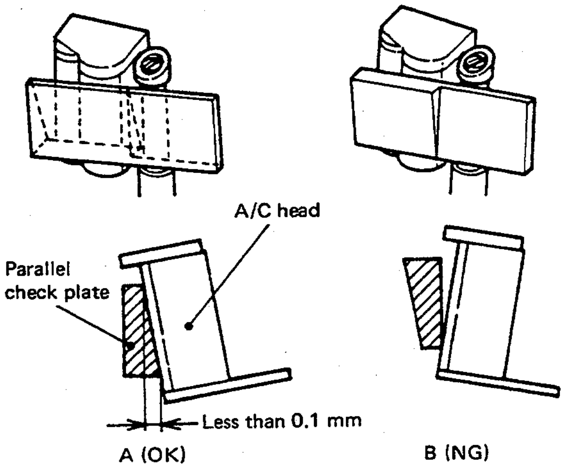

A/C head
Parallel check plate
Less than 0.1 mm
A (OK)
B (NG)

Fig. 2-32 A/C head parallel

2.6.11 Take-up guide pole height

1. Set the master plane jig. Use the height gauge (PUJ-44650) to confirm that the height of the lower face of the upper flange.
2. If necessary, adjust the height by turning the nut as shown in Fig. 2-33.
3. If the height has been adjusted, tape transport adjustments are required (see section 2.7).

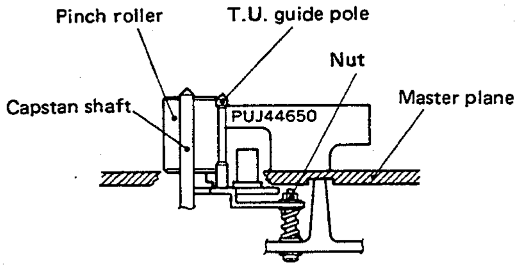

Pinch roller
T.U. guide pole
Nut
Capstan shaft
Master plane
PUJ44650

Fig. 2-33 Take-up guide pole height

2.6.12 Take-up guide pole perpendicularity

1. Set the master plane jig. Use the height gauge (PUJ-44650) to measure at the two orthogonal places (X-Y') as shown in Fig. 2-34(c).
2. To measure at the Y' place, check that the perpendicularity degree between the take-up guide pole and height gauge is less than 0.05 mm as shown in Fig. 2-34(a).
3. In the same manner, check at the X place as shown in Fig. 2-34(b).
4. Perform the following check after completing steps 2 and 3. Check that tilt of take-up guide pole is less than 0.05 mm in both X and Y directions (shaded position) as shown in Fig. 2-34(c).
5. With a recorded E-180 tape loaded, shift the mode from Search FWD (X10 mode) to Search REV (– X10 mode). During the playing, check the tape whether it is damaged or wrinkled between the TU guide pole and TU tape guide roller or not.

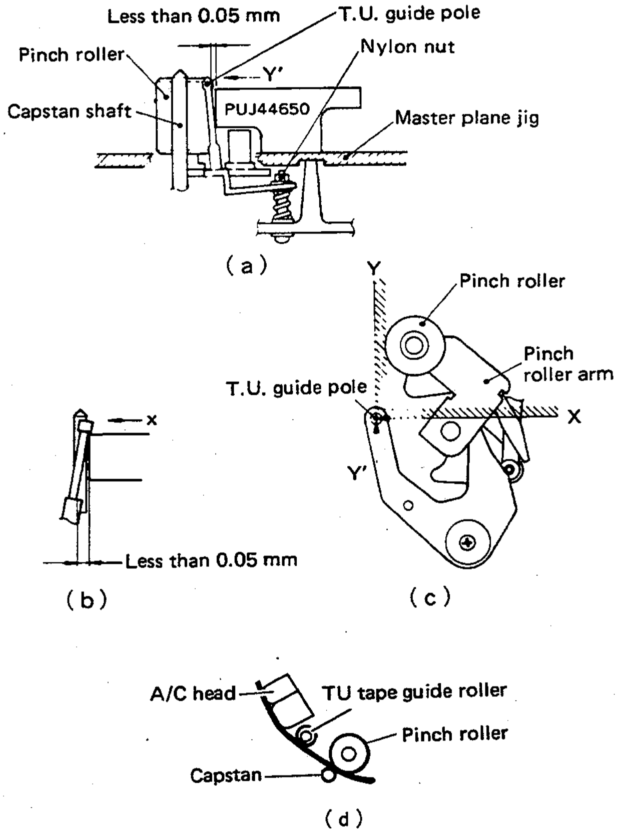
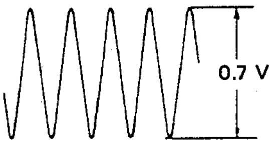
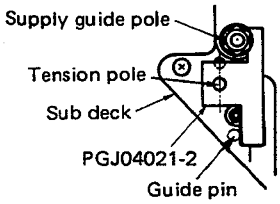
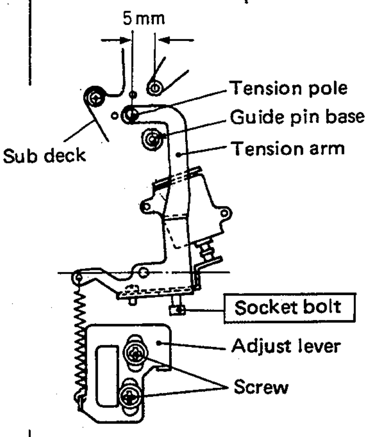
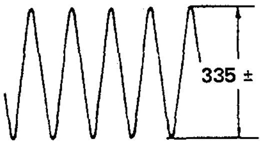

Less than 0.05 mm
T.U. guide pole
Nylon nut
Pinch roller
Y'
Capstan shaft
PUJ44650
Master plane jig
(a)
Y
Pinch roller
Pinch roller arm
T.U. guide pole
X
Y'
x
Less than 0.05 mm
(b)
(c)
A/C head
TU tape guide roller
Pinch roller
Capstan
(d)

Fig. 2-34 Take-up guide pole perpendicularity

2.6.13 Reel servo circuit

Note: All check and adjustment points in the following table are located on the Servo 2 board. (Refer to page 3-11.)

No.	Item	Check Point	Adjustment Parts	Mode	Description
1	Supply DC set	TP7 TP10 : GND ↓ Digital voltmeter	R109 TP7 : 6.00 ± 0.05 V DC	STOP	1) Adjust R109 for 6.00 ± 0.05 V DC.
2	Take-up DC set	TP9 TP10 : GND ↓ Digital voltmeter	R114 TP9 : 6.00 ± 0.05 V DC	STOP	1) Adjust R114 for 6.00 ± 0.05 V DC.
3	Supply detect level set	TP2 TP11 : GND 	R102	STOP	1) Adjust R102 for 0.7 Vp-p.
		 Supply guide pole Tension pole Sub deck PGJ04021-2 Guide pin **Fig. (a)**	Setscrew  5 mm Tension pole Guide pin base Tension arm Sub deck Socket bolt Adjust lever Screw **Fig. (b)**	PLAY	2) Use operation preset and set for Play mode. 3) When the tension pole is positioned as shown in Fig. (a), adjust the socket bolt so that output at TP2 becomes 335 mVp-p. **Note:** If the tension pole positioning jig is unavailable, position the tension pole as shown in Fig. (b) for the adjustment. 4) Perform the following checks and adjustments. Sect. 2.6.7 Differential transformer position Sect. 2.6.13 Reel servo circuit Sect. 2.7 Tape transport
4	Supply reel motor DC set	TP6 TP10 : GND ↓ Oscilloscope	R107 Half-loading torque: 20 ± 5 mV DC	HALF LOADING	1) Set the beginning portion of E-180 tape. 2) During half-loading (while the half loading pole moves toward the A/C head), adjust R107 for 20 mV DC.
			R108 Half unloading torque: 120 ± 10 mV DC	HALF UNLOADING	3) Press the EJECT button. 4) During half unloading (while the half-loading pole moves toward the cassette), adjust R108 for 120 mV DC.
			R105 Loading torque: 20 ± 5 mV DC	LOADING	5) Set the beginning portion of E-180 tape and press the PLAY button. 6) Adjust R105 for 20 ± 5 mV DC during loading.
			R104 Still tension: 10 ± 1 mV DC	STILL	7) Set for the Still mode. 8) Move the tension pole to the right end, then adjust R104 for 10 ± 1 mV DC.
			R106 Unloading torque: 120 ± 10 mV DC	UNLOADING	9) Set the beginning portion of E-180 tape. 10) During unloading, adjust R106 for 120 ± 10 mV DC.

No.	Item	Check Point	Adjustment Parts	Mode	Description
5	Take-up reel motor DC set	TP8 ↓ Oscilloscope	R110 Loading torque: 30 ± 5 mV DC	LOADING	1) During loading, adjust R110 for 30 mV DC.
			– Unloading torque: 30 ± 5 mV DC	UNLOADING	2) During unloading, confirm that the level is 30 ± 5 mV DC.
			– Half unloading torque: 30 ± 5 mV DC	HALF UNLOADING	3) During half unloading, confirm that the level is 30 ± 5 mV DC.
			– Half loading torque: 30 ± 5 mV DC	HALF LOADING	4) During half-loading, confirm that the level is 30 ± 5 mV DC.
6	Supply detect level	TP2 TP11(GND) 	R103	PLAY	1) Set the center portion of E-180 tape and press the PLAY button. 2) Adjust R103 for 335 mVp-p.
7	Loading supply back tension	Cassette torque meter (Left side)	R105 Loading supply back tension: 20 ± 4 g-cm	LOADING	1) Use the cassette torque meter PUJ42881 and set for the Play mode. 2) During loading, confirm that the left side meter reads 20 ± 4 g-cm. 3) If not, adjust R105 for 20 ± 4 g-cm.
8	Supply back tension (refer to page 2-17)	Cassette torque meter (Left side)	– Supply backtension: 56 ± 7 g-cm	PLAY	1) Use the cassette torque meter PUJ42881 and set for the Play mode. 2) During the playback mode, confirm that left meter (supply side) reads 56 ± 7 g-cm and TP2 (SERVO 2) level is 335 ± 10 mVp-p. (Refer to No. 6 Supply detect level.) 3) If not, perform the following steps. 2.6.7 Differential transformer position, No. 3 Supply detect level set, No. 6 Supply detect level 4) Perform steps 1) and 2) again. When 56 ± 7 g-cm is obtained, confirm 'No. 6 Supply detect level'. 5) If not, adjust the adjustment lever position carefully, then repeat steps 3) and 4) until the specified results are obtained.
9	Take-up torque	Cassette torque meter (Right side)	R111 Take-up torque: 100 ± 15 g-cm	PLAY	1) Use the cassette torque meter PUJ42881 and set for the Play mode. 2) During the playback mode, adjust R111 so that the right side meter reads 100 ± 15 g-cm.
10	Take-up still tension	TP8 ↓ Oscilloscope	R113 TP8 : 60 ± 10 mV DC	STILL	1) Set for the Still mode with the beginning portion of E-180 tape. 2) Adjust R113 to obtain 60 ± 10 mV DC.

No.	Item	Check Point	Adjustment Parts	Mode	Description
11	Half-loading supply tension	TP6 ↓ Oscilloscope	R107 VHFLD = VLOAD ± 5 mV DC	LOADING ↓ HALF LOADING	1) Set for the Playback mode with the beginning portion of E-180 tape. 2) During the Loading mode, measure the DC voltage (VLOAD) at TP6. 3) During the Half-loading mode, adjust R107 so that the DC voltage (VHFLD) at TP6 is equal to VLOAD.
12	Search REV back tension	Cassette torque meter	R112 Search REV tension Take-up : 50 ± 2 g-cm Supply : 130 ± 15 g-cm	SEARCH REV (– X1)	1) Use the cassette torque meter PUJ42881B and set for the Search Reverse –X1 speed. 2) Adjust R112 so that the right side meter reads 50 ± 2 g-cm. 3) Confirm that the left side meter reads 130 ± 15 g-cm.

13. FF and REW torque

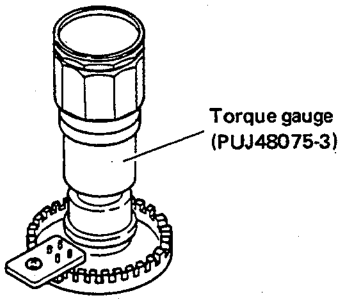
1) Perform operation preset. (Refer to 2.5.1.)
2) Set S2-2 of the Syscon board to "ON".
3) Set the torque gauge (PUJ48075-2) on the take-up reel disk. Use the FF mode.
4) While the torque gauge turns gradually, read the value when the needle and scale simultaneously begin to move.
5) Confirm a value greater than 300 g-cm.
6) In the same manner, confirm greater than 300 g-cm REW torque.

   Note: If less than 300 g-cm, inspect the reel servo circuit (SERVO 2 board).

7) Set S2-2 (Syscon board) to "OFF".

14. Fast Forward (FF) and Rewind (REW) reel brake torque

1) Referring to section 2.5.1 "Operation preset", set a cassette tape and supply power.
2) Set S2-2 (Syscon board) to "ON".
3) Set for the REW mode.
4) Set the torque gauge (PUJ48075-3) on the take-up reel disk. Relex the grip on the gauge so that the disk turns slowly in the direction of the arrow B. Read the indication at the point where the indicator and scale rotate at equal speed. The correct value is 13 ± 4 g-cm.
5) In the same manner, check the FF mode. Set the gauge on the supply reel disk and let the disk turn in the direction of the arrow A. The correct value is 13 ± 4 g-cm.
6) Set S2-2 (Syscon board) to "OFF".



(a) FF/REW Torque

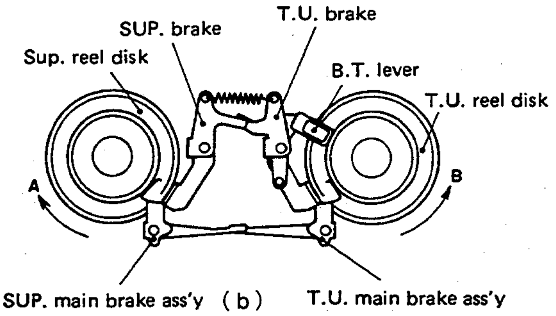


Fig. 2-35

■ Flowchart of tape tension adjustment

START

Set it to PLAY mode with not tape loaded, and contact tension arm with guide pin base. (see Fig. 1)

Is the gap (A) between differential transformer mold and E ring 0.1 – 0.5 mm? (see Fig. 1)

NO → In order to provide a gap of 0.1 – 0.5 mm. → Adjust socket bolt. → (back to "Set it to PLAY mode with not tape loaded…")

YES

Set it to STOP mode

Is the level of TP2 (Servo 2 PWB) 0.7 Vp-p

NO → Adjust TP2 level to 0.7 Vp-p with R102 (Servo 2 PWB).

YES

Set it to PLAY mode (with no tape loaded).

Place tension pole at the position shown in Fig. 2.

Is the level of TP2 (Servo 2 PWB) 335 ± 10 mVp-p?

NO → In order to set the TP2 level to 335 mVp-p. → Adjust socket bolt.

YES

Load 180-minute tape at center and set it to PLAY mode.

Is the level of TP2 (Servo 2 PWB) 335 ± 10 mVp-p?

NO → Adjust TP2 level to 335 mVp-p with R103 (Servo 2 PWB).

YES

Load cassette torque meter (PUJ42881) and set it to PLAY mode.

Is supply back tension force 56 ± 7 g-cm?

NO → While replaying the center part of casette toreque meter, adjust the adjust lever position to 56 ± 7 g-cm (see Fig. 3). → (back to "Set it to PLAY mode with not tape loaded…")

YES

FINISH

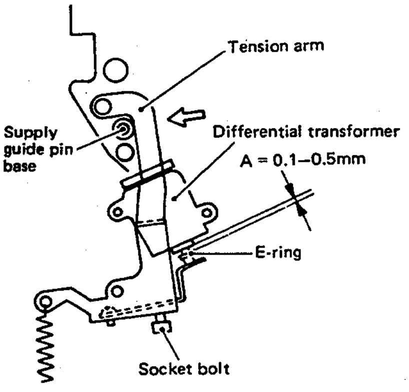

Tension arm
Supply guide pin base
Differential transformer
A = 0.1–0.5mm
E-ring
Socket bolt

Fig. 1 Position Adjustment of the Differential Trans.

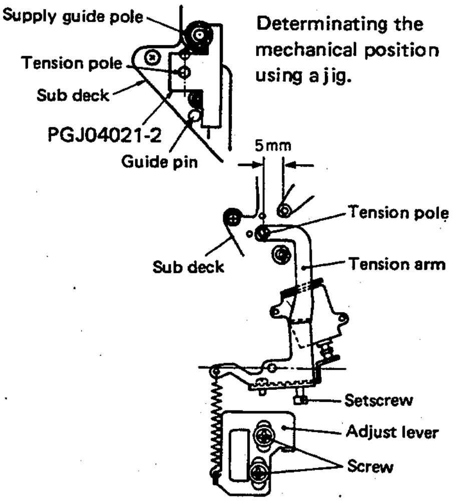
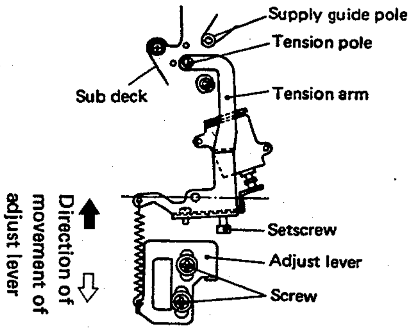

Supply guide pole
Tension pole
Sub deck
PGJ04021-2
Guide pin
Determinating the mechanical position using a jig.
5mm
Tension pole
Sub deck
Tension arm
Setscrew
Adjust lever
Screw

Fig. 2 Mechanical Position of Tension Pole

⇦ ➡
Movement of tension pole associated with adjust lever movement.


Supply guide pole
Tension pole
Sub deck
Tension arm
Setscrew
Adjust lever
Screw
Direction of movement of adjust lever

⬅ Torque decreases (decrease of supply back tension)
⇦ Torque increases (increase of supply back tension)

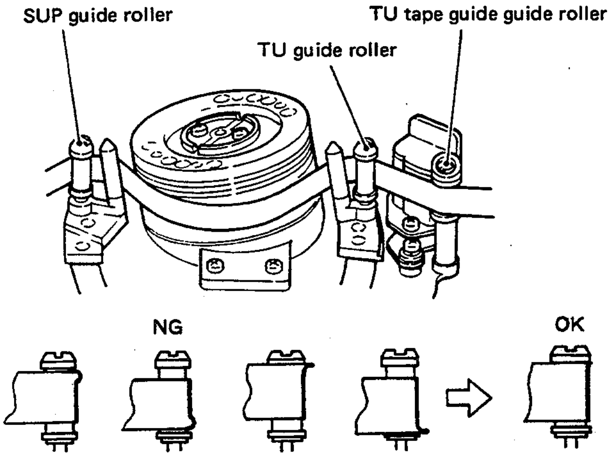
Fig. 3 Adjustment of the Adjust Lever

2.7 TAPE TRANSPORT SYSTEM ADJUSTMENT

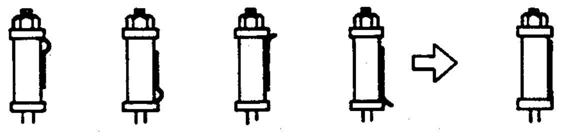
The tape transport system has been precisely adjusted at the factory and ordinarily does not require readjustment. The following checks and adjustments may be required after extensive use or after replacing parts of the tape transport system.

2.7.1 Tape transport system checks

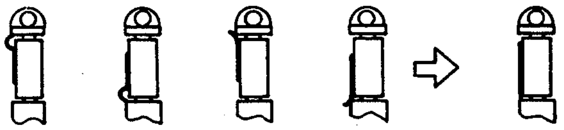
1. Use a spare 180-minute length cassette and confirm the following points at the beginning and end portions of the tape.
2. Perform loading and unloading operations repeatedly. Observe the tape at the supply and take-up guide rollers and guide poles. Confirm absence of wrinkling or curling.
3. Set for the Playback mode and again check in the same manner.


SUP guide roller
TU tape guide guide roller
TU guide roller
NG
OK

(a) Guide roller



(b) SUP guide pole



(c) TU tape guide roller

Fig. 2-36

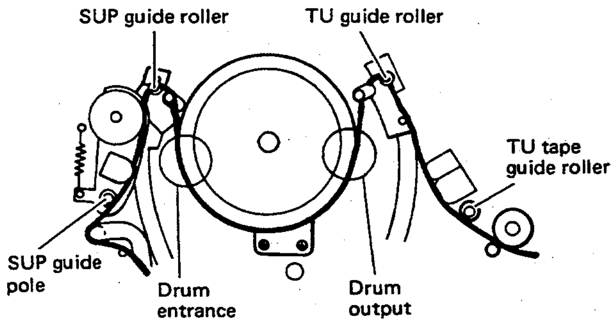

SUP guide roller
TU guide roller
TU tape guide roller
SUP guide pole
Drum entrance
Drum output

Fig. 2-37 Tape transport check

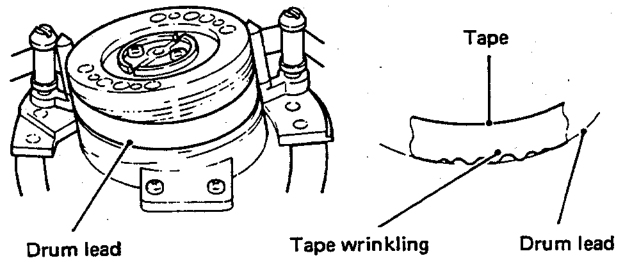

Tape
Drum lead
Tape wrinkling
Drum lead

Fig. 2-38 Drum lead

Notes:

- If shift is upward, noise may be produced as the video heads strike the tape edge.
- If shift is downward, perform the adjustments of Section 2.7.2.

2.7.2 Tape transport system adjustments

Notes:

- Perform these adjustments only after confirming abnormality in the tape transport system.
- After adjusting, check interchangeability (Section 2.8).

1. Guide roller height
1) Slightly loosen the setscrew of the guide roller to be adjusted. Loosen it just enough to allow turning the guide roller with a screwdriver.
2) Use a spare tape and set for Playback.
3) Use a screwdriver to adjust the guide roller height so that the tape travels in the drum lead.
4) After adjusting, be sure to tighten the setscrew.

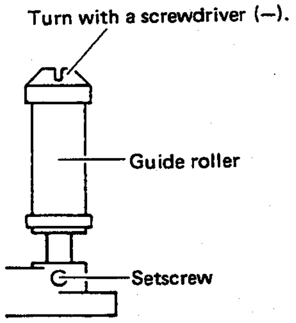

Turn with a screwdriver (–).
Guide roller
Setscrew

Fig. 2-39 Guide roller

2. Supply guide pole
1) Use a spare tape and set for Playback.
2) Use a nutdriver to adjust for absence of tape wrinkling or curling at the supply guide pole.

Note: Adjust in the range of ±0.5 mm with respect to the height adjusted in Section 2.6.3 (one turn of the nut = 0.5 mm). If this range is inadequate for adjusment, also check the reel disk height (Section 2.6.2) and tension pole perpendicularity (Section 2.6.9), etc.

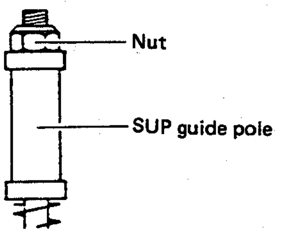


Fig. 2-40 Supply guide pole

3. Take-up tape guide roller height
1) Use a spare tape and set for Playback.
2) Slightly loosen the setscrew and the upper screw. Adjust to eliminate tape wrinkling or curling at the flange of the take-up pole.
3) After adjusting, be sure to tighten the setscrew.

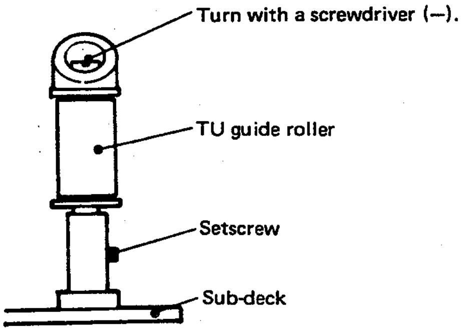
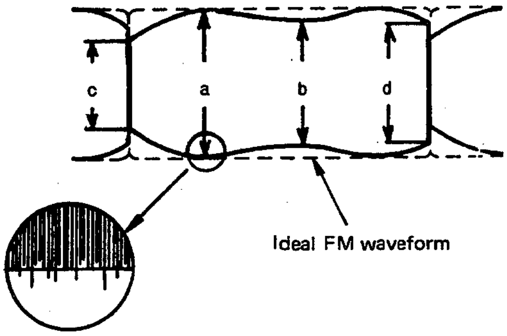


Fig. 2-41

2.8 INTERCHANGEABILITY

2.8.1 FM waveform checks

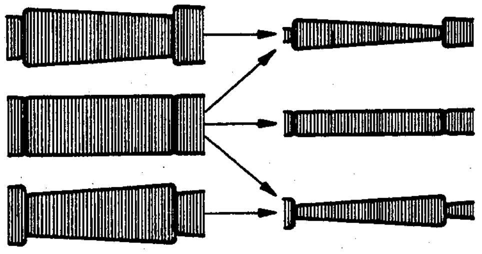
1. Connect an oscilloscope to the front V-RF test point. Trigger the oscilloscope externally with the signal from D-PULSE (or TP11 of the SERVO 1 board).
2. Play the stairstep signal of the MH-2 or MHPE alignment tape.
3. Adjust the TRACKING control for maximum FM waveform.
4. Adjust the oscilloscope gain to set the maximum FM waveform level ("a" in Fig. 2-42) to 4 scale divisions. Confirm that the minimum level ("b" in the figure) is greater than 3.6 scale divisions. Read the value where the serrations are most aligned.



a	b	c	d
4 divisions	3.6 divisions or greater	3.4 divisions or greater	3.4 divisions or greater

Fig. 2-42 FM waveform (maximum output)

5. Read the values of the portions corresponding to the drum intake and output "c" and "d" in the figure. Confirm these are greater than 3.4 scale divisions.
6. Operate the TRACKING control to both extremes of its range. Confirm nearly linear variation of the FM waveform (see Figs. 2-43 and 2-44).
7. Adjustment is required if the conditions of Steps 4, 5 and 6 are not fulfilled.



(a) Maximum level (b) Minimum level

Fig. 2-43 Normal FM waveform variations

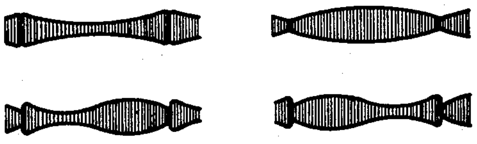


Fig. 2-44 Abnormal FM waveforms

2.8.2 FM waveform coarse adjustment

1. Connect the oscilloscope to the front V-RF test point. Trigger the oscilloscope externally with the signal from D-PULSE.
2. Play the stairstep signal of the MH-2 or MHPE alignment tape.
3. Adjust the TRACKING control for maximum FM waveform.

- **Drum intake (waveform rising edge portion)**

4. If the waveform appears as shown by A or B of Fig. 2-45, adjust the supply guide roller height to obtain a linear waveform as shown by C.
5. Confirm absence of tape wrinkling or curling at the supply guide pole. If present, again check according to Sections 2.6.3 and 2.7. (If tape deviates from the guide or if wrinkles occur, adjust the supply guide pole height so that the tape travels at the lower specification.)

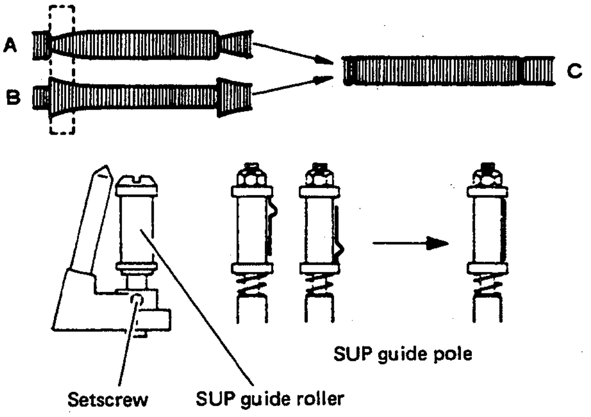


Fig. 2-45 Drum intake adjustment

- **Drum output (waveform falling edge portion)**

6. If the waveform appears as shown by D or E of Fig. 2-46, adjust the take-up guide roller height to obtain a linear waveform as shown by F.
7. Confirm absence of tape wrinkling or curling at the take-up guide roller. If present, again check according to Sections 2.6.4, 2.6.5 and 2.7.
8. Confirm that the A/C head assembly height with respect to the tape and transport is as shown in Fig. 2-47. If necessary, adjust by turning screws Ⓐ, Ⓑ and Ⓒ by equal amounts.

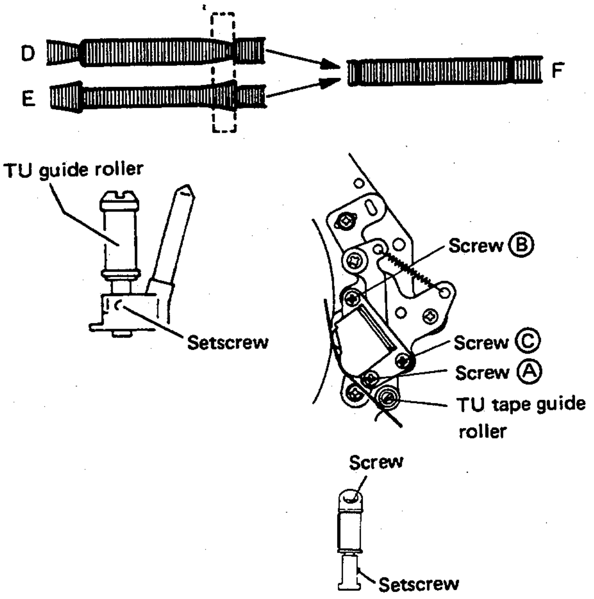


Fig. 2-46 Drum output adjustment

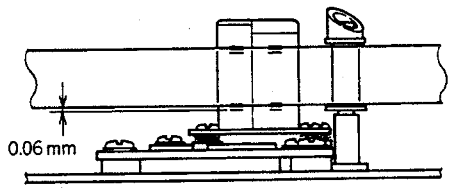


Fig. 2-47 A/C head height

2.8.3 FM waveform fine adjustment

1. After completing coarse adjustment, set the TRACKING control for minimum FM waveform at V-RF. Again use the D-PULSE for external trigger.
2. If the waveform appears as shown by A or B in Fig. 2-48, adjust the supply guide roller. If it appears as shown by C or D, adjust the take-up guide roller. Adjust carefully so that the waveform appears as shown by E, F or G. If waveform variation is large, adjust for minimum variation.

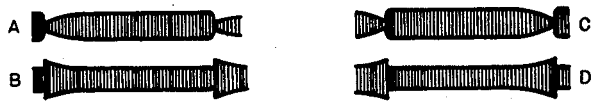


Fig. 2-48 Abnormal FM waveforms (minimum level)

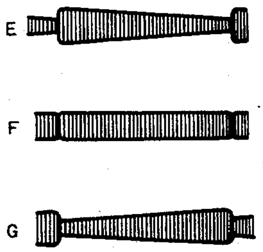


Fig. 2-49 Normal FM waveforms (minimum level)

3. Operate the TRACKING control to vary the FM waveform. Repeat the adjustments of Sections 2.8.2 and 2.8.3 to obtain linear variation.

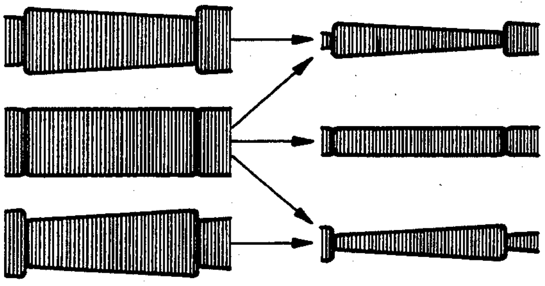

(a) Maximum level (b) Minimum level

Fig. 2-50 Normal FM waveforms

4. Confirm the A/C head height, azimuth and position according to Sections 2.8.4, 2.8.5 and 2.8.6.
5. After confirming normal tape transport, set to the Stop mode and tighten the setscrews. Use care not to disturb the adjustments (especially the guide rollers).
6. Again check according to Section 2.8.1.

2.8.4 A/C head height

1. Connect a dual-trace oscilloscope to TP3 (L-ch) and TP4 (R-ch) of the Normal Audio board.
2. Play the 1 kHz signal of the MH-2 or MHAE alignment tape.
3. Refer to Fig. 2-51 and gently press point Ⓧ of the tape downward. Confirm that the TP3 (L-ch) output does not increase by more than 0.5 dB.
4. Similarly, gently press point Ⓨ of the tape upward. Confirm that TP4 (R-ch) output does not increase by more than 0.5 dB.

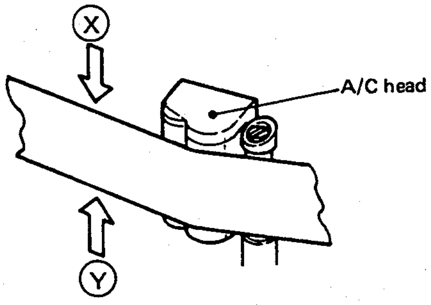


Fig. 2-51 A/C head height check

5. If increase is greater than 0.5 dB, adjust as follows.
6. Adjust the oscilloscope for equal maximumlevels for CH1, when tape is lightly pressed downward at point Ⓧ, and CH2, when the tape is lightly pressed upward at point Ⓨ.
7. When the tape is running normally, adjust screws Ⓐ, Ⓑ and Ⓒ (Fig. 2-52) by small and equal amounts in order to obtain the same levels between CH1 and CH2.
8. If tape wrinkles or curls at the take-up tape guide roller, repeat the checks of Sections 2.6.4 and 2.7.

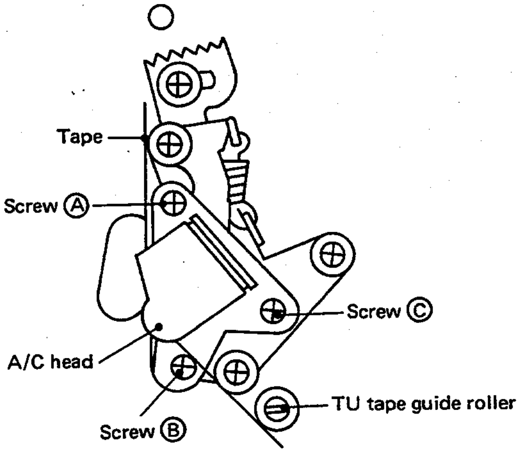


Fig. 2-52 A/C head height

2.8.5 A/C head azimuth

Perform the following after completing Section 2.8.4.

1. Connect a dual-trace oscilloscope to TP3 (L-ch) and TP4 (R-ch) of the Normal Audio board.
2. Play the 6 kHz signal of the MH-2 or MHPE alignment tape.
3. Adjust screws Ⓐ and Ⓑ (Fig. 2-52) for maximum levels and to eliminate phase difference between the channels.
4. Check according to Section 2.8.4.

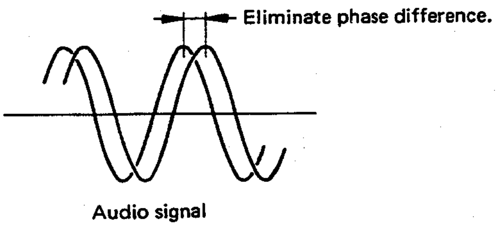


Fig. 2-53 Audio signal phase adjustment

2.8.6 A/C head position

1. Connect the oscilloscope to the front V-RF test point.
2. Play the stairstep signal of the MH-2 or MHPE alignment tape.
3. Operate the TRACKING control and confirm maximum FM waveform at the center detent position.
4. If maximum is not at center, set the control to center and adjust as follows.
5. Loosen screws Ⓓ, Ⓔ and Ⓕ (Fig. 2-54) and slide the A/C head fully in the drum direction, as indicated by the arrow.

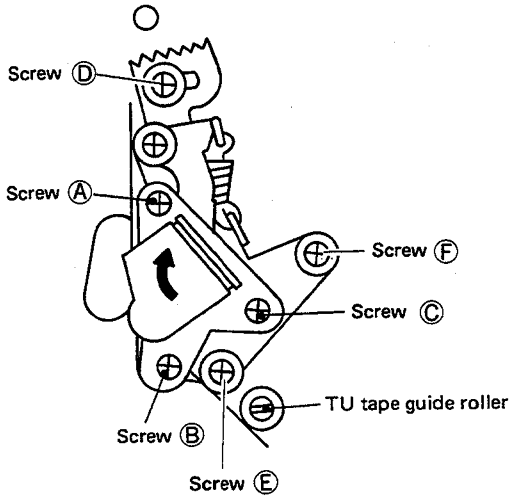


Fig. 2-54 A/C head position

6. Tighten screws Ⓓ, Ⓔ and Ⓕ lightly and play the stairstep signal of the MH-2 or MHPE alignment tape.
7. Set the slide bar adj. driver (PGJ04009) as shown in Fig. 2-55. Slowly turn the tool to where the 2nd maximum peak of the FM waveform is obtained (Fig. 2-56).
8. Tighten screws Ⓓ, Ⓔ and Ⓕ securely. Use care not to disturb the A/C head position.
9. Check according to Sections 2.8.1 to 2.8.5 and 2.6.10.

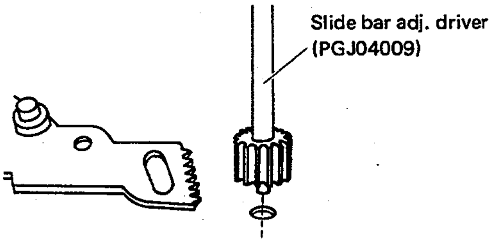


Fig. 2-55

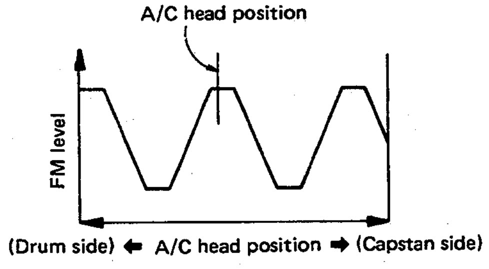


Fig. 2-56

2.8.7 Final checks

1. Reconfirm section 2.8.1.
   If incorrect FM waveform, replace the upper drum assembly (refer to section 2.5.3).
2. Connect an oscilloscope to V-RF and A-RF of the Front Panel.
   With dual trace mode, trigger the oscilloscope externally with signal from D. PULSE of the Front service terminal.
   1) Play stairstep signal segment of the alignment tape MH-2. or MHPE.
   2) Set the trigger to + slope and observe the video FM waveform (CH-2).
   3) Turn the Tracking knob to obtain the maximum video FM waveform.
      At this time play carrier signal segment of the alignment tape MH-F8. Observe the audio FM waveform and mesure the audio FM level (b).
   4) Turn the Tracking knob to obtain the maximum audio FM waveform and mesure the audio FM level (a). Confirm that the level difference between audio FM waveform (b) and the maximum level (a) obtained manually is:

      $\frac{b}{a} \geq 0.9$

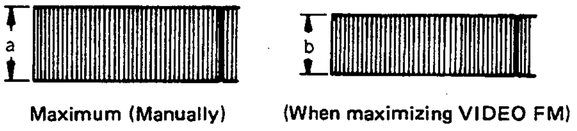


Fig. 2-57 Audio FM output level

   5) When the maximum video FM waveform, confirm the audio FM waveform (Fig. 2-58) obtained that:

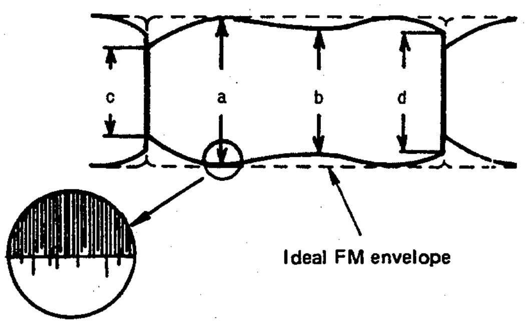


Fig. 2-58 FM waveform (max. output)

$\frac{b}{a} \geq 0.8$, $\frac{c}{a} \geq 0.64$, $\frac{d}{a} \geq 0.64$

(Specifications of audio FM waveform)

   6) Without audio signal, perform recording and then playback. Confirm the audio FM waveform (CH1/CH2) satisfied the specifications of audio FM waveform.
   7) If FM waveform is still incorrect by the adjustments from the steps 1 through 5, replace the upper drum assembly (refer to section 2.5.3).
3. Perform overall checks and adjustments of the servo circuit and video, and then perform the audio circuit adjustment.

2.8.8 Adjustment of half-loading pole position

1. Set a E-180 cassette tape recorded CTL pulse.
2. Connect the oscilloscope's probe to TP3 of the SERVO-1 SUB board.
3. Slightly loosen the screw Ⓐ and set the A/C head positioning jig above the screw Ⓐ for adjusting. (Fig. 2-59)
4. Adjust position of the half-loading pole to obtain more than 7 Vp-p as output level at TP3 (CTL) in FF or REW mode. (Fig. 2-62)
5. Confirm that the half-loading pole and the A/C head do not contact with each other and nothing disturbs tape transport (in FF and REW).
6. Tighten the screw Ⓐ and again confirm the adjustment of Section 2.8.6 'A/C head position'.

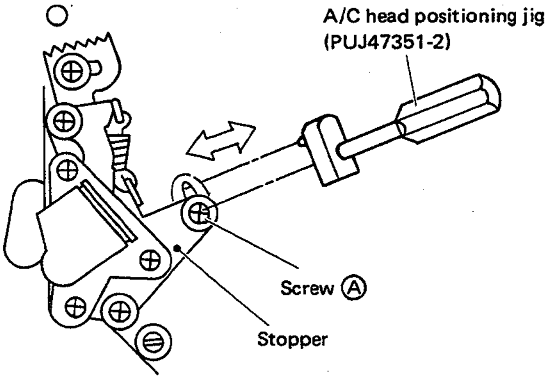
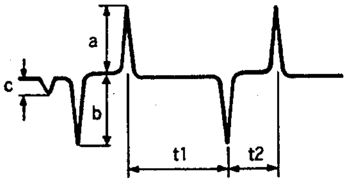


Fig. 2-59

7. Play the stair step signal segment of MH-2 or MHPE.
8. As indicated in Fig. 2-60, confirm that following relationships.



$t_1 > t_2$

$a \geqq 2.5\,V$
$b \geqq 2.5\,V$
$c \leqq 0.1\,V$

Fig. 2-60

9. In SEARCH (X-1/30) mode, confirm that "a" shown in Fig. 2-60 is greater than 0.5 Vp-p.

2.8.9 Adjustment of A/C head shield setting position

1. Insert tape and set for the Stop mode (halfloading mode).
2. Tighten the screw in the condition that the gap between the half-loading pole and the shield is 1 mm approx. (Finally, apply screw sealant to the screw.)
3. By repeating half-loading operation a few times, check that the half-loading pole and the shield do not contact with each other during the operation.
4. Confirm that specifications of Section 2.8.4 'A/C head height' and Section 2.8.5 'A/C head azimuth' are all satisfactory.

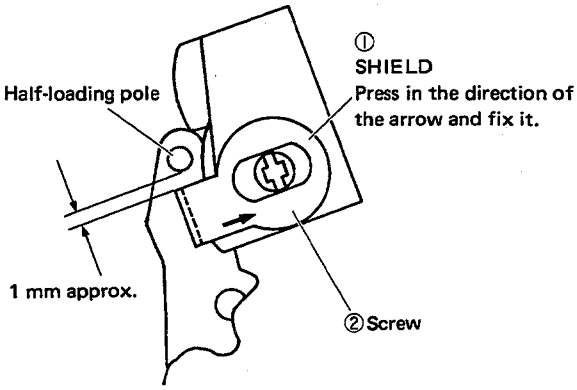


Fig. 2-61

2.8.10 Adjustment of adjuster setting position

The "Adjuster" regulates position of the tape guide arm in the Half-Unloading mode. If the tape guide arm comes off the normal position, it causes incomplete tape intake (Warning '40') resulting from contact between the tape and the lower flange of the tape guide arm as well as catching the tape by the upper flange of the tape guide arm in the Eject and Intake operation. The 'Adjuster' needs not adjustment in usual, however, if it was once removed, perform checkup and adjustment of it as follows.

- **Checkup and adjustment method**

1) Load the deck with a cassette tape (E-180) having no lid.
2) Repeating the Intake - Eject operations a few times, confirm that the upper flange of the tape guide arm does not catch the tape in the Eject mode. (At the same time, also confirm that the tape is not slackening.) If not, perform the following adjustment.

① Turn off the power first, and then take off the cassette housing. (Refer to 2.5.1,)
② Push the cassette tape toward the front panel and adjust the gap Ⓐ to be maximum (see Fig. 2-62).
③ Again, precisely adjust the adjuster's angle with a pair of pliers, sec. and the gap gauge so that the gap Ⓐ is 0.3 mm wide.
④ Confirm step 2).

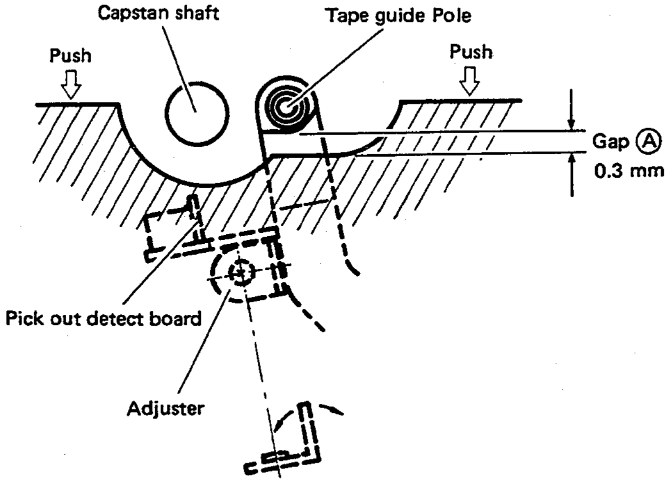


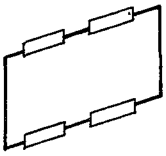
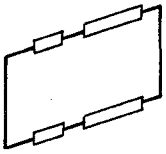
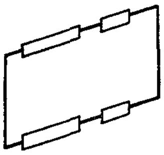
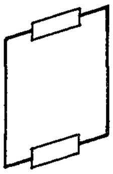
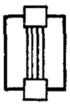
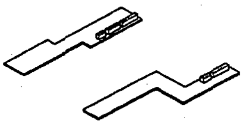
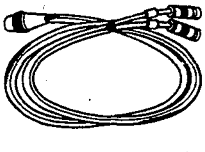
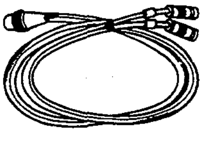
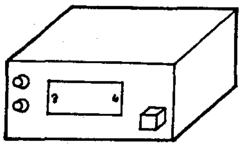
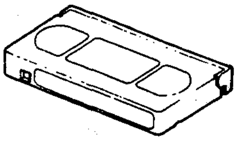
Fig. 2-62

SECTION 3
ELECTRICAL ADJUSTMENTS

3.1 PRECAUTIONS

- Prior to commencing electrical adjustment, it is required to confirm that the objective part or item for adjustment is out of order or does not work as specified as well as to confirm necessity of mechanical adjustment which is closely related to the electrical adjustment and must be completed beforehand.
- All electrical adjustment must be commenced 5 minutes after the power on.

3.1.1 Required test equipment

Extension boards				
1. PGJ05016 for SYSCON/SERVO 1 boards 	2. PGJ05004 for N-AUDIO, FM AUDIO, PB Y, PB C boards 	3. PGJ05005 for REC Y, FM R/P boards 	4. PGJ05006 for RF DL & C ENH, SERVO 2 boards 	5. PGJ05007-2 for VIDEO PRE AMP board 
Extension board	DUB IN cable	DUB OUT cable	Carrier checker	Alignment tapes
6. PGJ05025 for SERVO 1 SUB board 	*PGJ05028  7-pin - BNC x 2	PGJ05018  7-pin - BNC x 2	PGJ05008-2 	Refer to 3.1.4. (page 3-4) 

*New fixture

- **The following instruments are required in addition to the above equipment**

- Frequency counter (over 10 MHz, less than 100 mV in sensitivity)
- Video signal generator (TG-7/2, Model 1411, Model 410P-JVC or equivalent)
- Waveform monitor (1485R or equivalent)
- Digital voltmeter (capable of 1 mV DC indication)
- RF signal generator (100 kHz – 10 MHz)
- Sweep generator (100 kHz – 10 MHz)
- Oscilloscope (dual-trace, for 50 MHz or more)
- Video monitor
- Vectorscope (521A or equivalent)
- VTVM (Vacuum Tube Volt Meter)

3.1.2 Explanation about columns

1. "Check point"

Check point
TP3 01 ↓ Digital voltmeter

The column of "Check point" indicates measuring instrument to be used and point(s) to which the measuring instrument should be connected. (Oscilloscope is omitted if it is used for other measurement than that of the audio system.)
An example on the left indicates to use a digital voltmeter and to connect it to TP3 on 01 REC Y board.

In some cases full or abbreviated name of terminal on the rear panel is indicated. For example:

a) Hi-Fi OUT means Hi-Fi AUDIO OUT terminal.

b) N. AUDIO OUT = NORM Hi-Fi AUDIO OUT terminal
Note: When this terminal is specified as check point, confirm that the NORMAL LINE OUT switch inside the switch cover is set to "NORMAL" position.

c) Y/C627 OUT = Y/C627 OUT terminal (7-pin)
Note: 1) The Checkpoint Chart indicates test instrument connection to either the Y or C output.

d) Y/C443 OUT = Y/C443 OUT terminal (7-pin)
Note: 1) The Checkpoint Chart indicates test instrument connection to either the Y or C output.

2. "Signal"

Signal
1 kHz/–6 dBm ↓ N. AUDIO IN

In this column signal to input and terminal to supply the input signal are indicated. (If no terminal is specified, input through the LINE IN terminal.)
An example on the left means to supply 1 kHz/–6 dBm signal to the NORMAL AUDIO IN terminal.

Abbreviations in this column are:

a) N. AUDIO IN = NORMAL AUDIO terminal

b) Hi-Fi IN = Hi-Fi AUDIO IN terminal

Note: When an alignment tape is played back to supply input signal, number of the tape and segment to be played back are specified in parentheses.

3. "Mode"

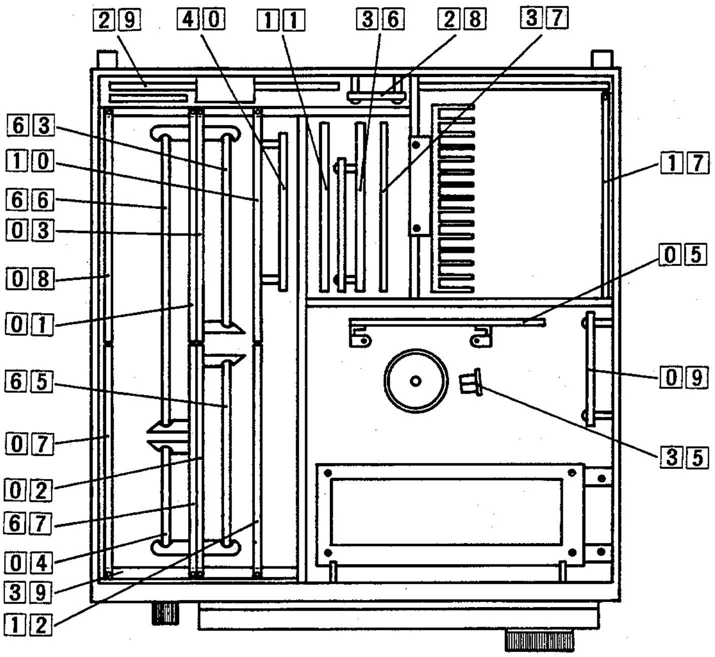
Mode
S-VHS REC ↓ PB

This column specifies the mode to be set for adjustment.
For this model, one of two modes of "S-VHS" and "VHS" is indicated unless it is unnecessary to select one of them.
When such a mode is specified, use VHS tape for "VHS" mode while S-VHS tape for "S-VHS" mode and at the same time set the REC MODE switch on the front panel to the proper position.

4. Location of main boards

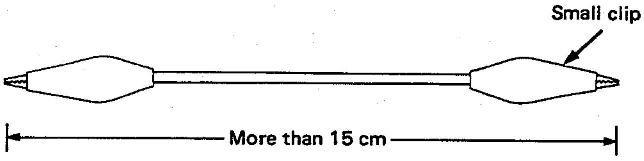
In this section, boards which have check points, adjustment parts, DIP switches are indicated by board numbers such as 01.
The following figure shows location of only the boards necessary for adjustments described in this section.

Board No.	Board Name
01	REC Y board
02	PB Y board
03	PB COLOUR board
04	Y/C SEPARATOR board
05	VIDEO PRE/REC AMP board
07	FM AUDIO board
08	NORMAL AUDIO board
09	V. ERASE/FM PREAMP board
10	SERVO 1 board
11	SERVO 2 board
12	SYSCON board
17	REGULATOR board
29	REAR board
37	RF DL & C ENHANCER board
39	CONNECTOR board
40	SERVO 1 SUB board
63	CROSS TALK CANCEL board
65	Y 2H DELAY board
66	REC COLOUR board
67	FM REC/PB board

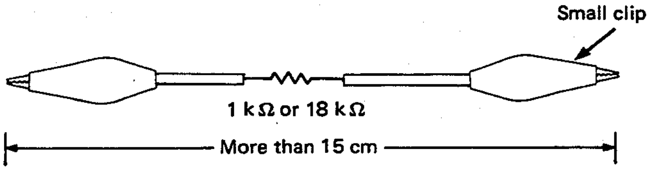


3.1.3 Convenient fixtures

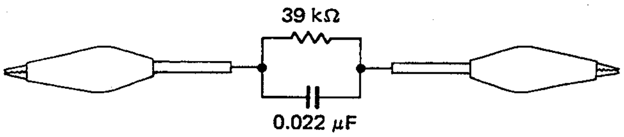
- **Shorting lead**
  To be used for shorting test pins


Small clip
More than 15 cm

- **1 kΩ and 18 kΩ shorting lead**
  To be used for shorting test pins

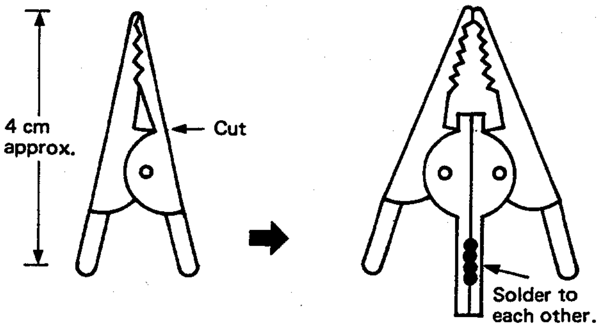

Small clip
1 kΩ or 18 kΩ
More than 15 cm

- **39 kΩ/0.022 μF shorting lead**


39 kΩ
0.022 μF

- **Big alligator clip**
  To make grounded-circuit for head resonance adjustment

- How to make:
  1) Prepare two alligator clips and cut short one side each at the part shown in the figure.
  2) Solder the cut sides of clips to each other (see figure).


4 cm approx.
Cut
Solder to each other.

Note: If an alligator clip as big as to be able to catch the VIDEO PRE/REC AMP board and the bracket is available, it is unnecessary to make it originally.

3.1.4 Alignment tape specifications

- **MH-8**

No.	PB time	Video signal	Audio signal	Description
1	2 min.	Colour sweep	400 Hz (–10 dB)	for check and adjustment of frequency characteristic in video PB circuits for check and adjustment of frequency characteristic in audio PB circuits
2	2 min.	″	100 Hz (–10 dB)	
3	2 min.	″	8 kHz (–10 dB)	
4	4 min.	″	–	

- **MH-F8**

No.	PB time	Video signal	Audio signal	Description
1	5 min.	–	Carrier only	for check and adjustment of mechanism interchangeability
2	5 min.	Stairstep	Carrier only	
3	5 min.	–	1 kHz (±50 kHz dev.)	for check and adjustment of FM audio PB circuits

- **MHPE**

Video signal	Audio signal	Description	
VHS SP mode Stairstep	6 kHz	for check and adjustment of interchangeability for check and adjustment of the servo circuit for adjustment of audio head azimuth	Usable in place of MH-2 stairstep

- **MHVE-2**

Video signal	Audio signal	Description	
VHS SP mode Colour bars	–	for check and adjustment of video signal PB circuits	Usable in place of MH-2 colour bars

- **MHAE**

Video signal	Audio signal	Description	
–	1 kHz (0 dB)	for check and adjustment of audio signal PB circuits	Usable in place of MH-2 1 kHz signal

- **MHVE-2H**

Video signal	Audio signal	Description	
S-VHS SP mode Colour bars	–	for check and adjustment of video signal PB circuits	Usable in place of MH-2H SP mode colour bars

- **MBVE-3H** (Handled by Service Engineering Section)

Video signal	Audio signal	Description
S-VHS SP mode Video sweep	–	for check and adjustment of video frequency response (Markers: 1M, 2M, 3M, 4M, 4.43 MHz)

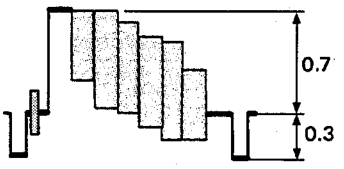
- ***MBVE-14H** (Handled by Service Engineering Section)

Video signal	Audio signal	Description	
S-VHS SP mode Video sweep	–	for check and adjustment of Auto EQ circuit (Markers: 1M, 2M, 3M, 4M, 4.43 MHz)	Reference signals for AUTO EQ : Line 11th, 324th

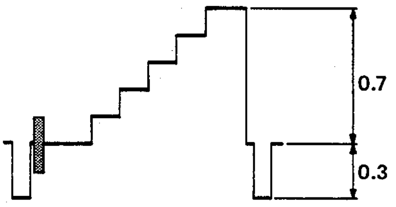
*New tape

3.1.5 Required video system test signals

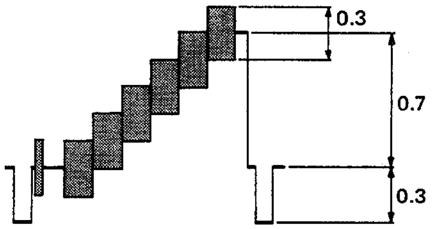
1. EBU 75% colour bars



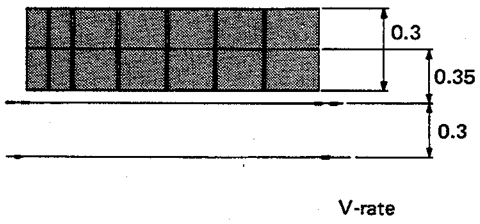
2. 5 steps



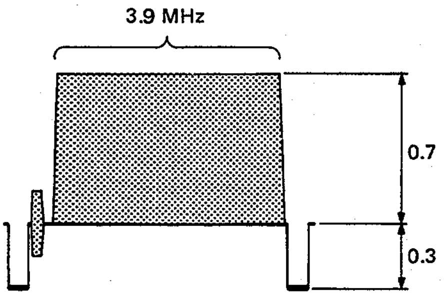
3. Modulated 5 steps



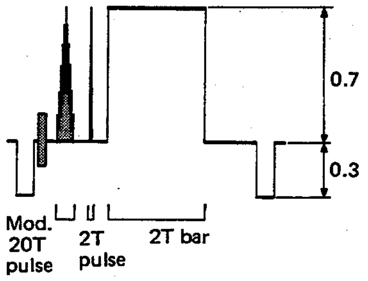
4. Video sweep (100 kHz – 5 MHz)


0.3
0.35
0.3
V-rate

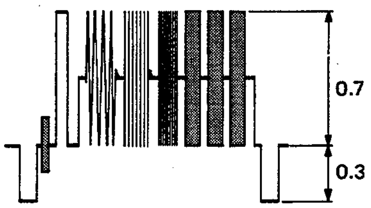
5. 3.9 MHz sine wave



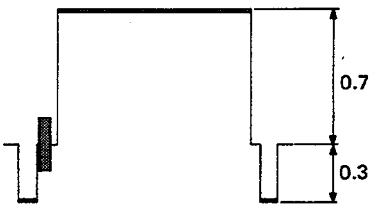
6. Pulse & Bar


0.7
0.3
Mod. 20T pulse
2T pulse
2T bar

7. Multiburst (100%)

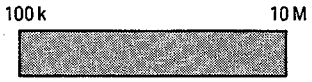


8. 100% white

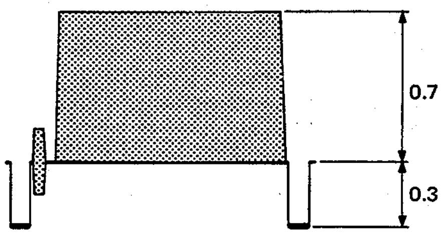


This can be used in place of a test pattern signal.

9. Sweep



10. 100% Chroma
Another pure color may also be used. A large colour level allows easier adjustment.

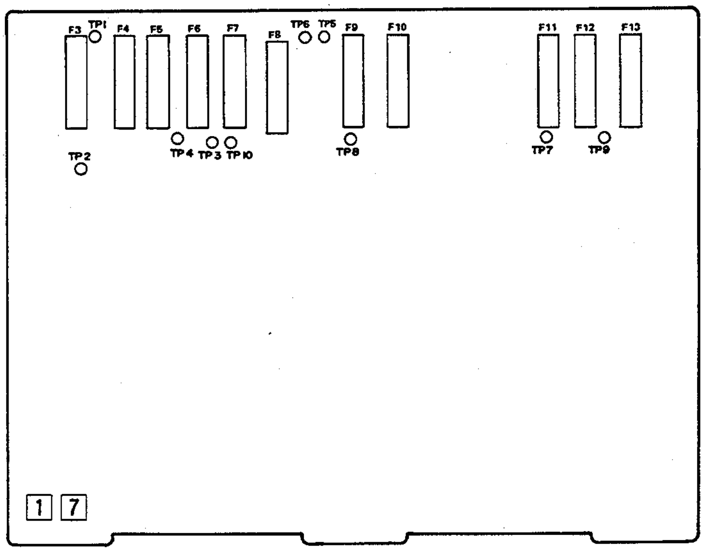


[UNIT: Vp-p]

3.2 POWER SUPPLY SYSTEM & SYSCON ADJUSTMENT

3.2.1 Regulator output voltage check

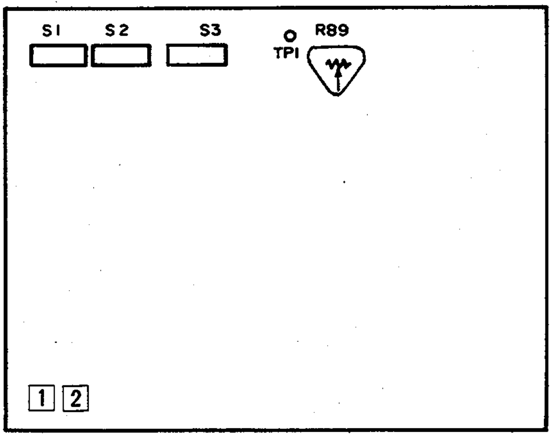
REGULATOR 1 7


F3
TP1
F4
F5
F6
F7
F8
TP6
TP5
F9
F10
F11
F12
F13
TP2
TP4
TP3
TP10
TP8
TP7
TP9
1 7

Measure DC voltage at the following test pins with a digital voltmeter, which is grounded to the board bracket of the REGULATOR board.

Check point	Standard voltage	Mode
Top of F4	$+12.0^{+0.3}_{-0.2}$ V DC	PB
TP2	+9.0 ± 0.3 V DC	
TP3	+5.1 ± 0.2 V DC	
TP4	+5.1 ± 0.2 V DC	
TP5	−14.0 ± 1.0 V DC	
TP6	+10.3 ± 0.5 V DC	
TP7	+16.5 ± 1.0 V DC	
TP8	+18.0 ± 1.0 V DC	
TP9	+12.0 ± 0.4 V DC	
TP10	+15.0 ± 0.4 V DC	REC

3.2.2 Syscon board 1 2

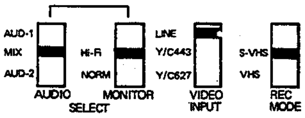

S1
S2
S3
R89
TP1
1 2

No.	Item	Check point	Adjustment Parts	Signal	Mode	Description
1	A/D for V. speed	TP1 1 2 ↓ Digital voltmeter	R89 1 2	No signal	STILL	1) Add 2.70 ± 0.05 V DC to connector CN1 pin 18b of the SYSCON board 1 2. 2) Adjust R89 to obtain 1.00 ± 0.02 V DC at TP1.

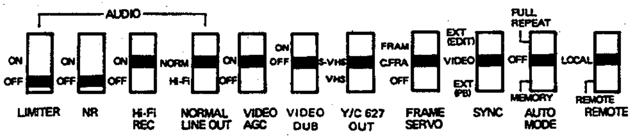
3.3 SERVO SYSTEM ADJUSTMENT

- Adjustment in this section is for the drum servo and capstan servo systems. (For adjustment of the reel servo system, refer to Section 2.6.13.)
- For adjustment of the SERVO-1 board, it is required to connect the extension board PGJ05016.
- Unless otherwise indicated, set switches and VRs as follows.

Front panel

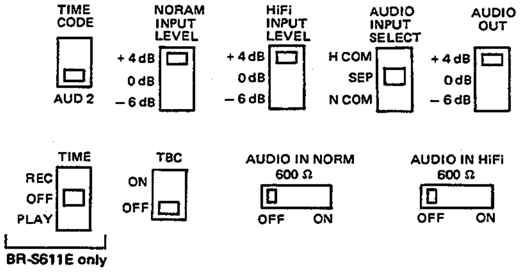

AUD-1
MIX
AUD-2
AUDIO
Hi-Fi
NORM
MONITOR
SELECT
LINE
Y/C443
Y/C627
VIDEO
INPUT
S-VHS
VHS
REC
MODE

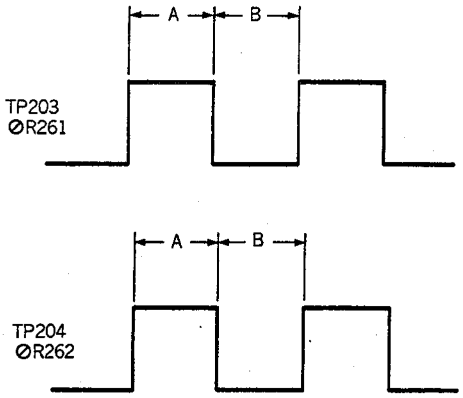
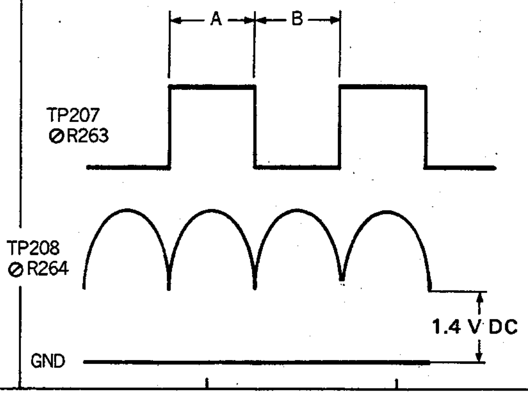
(Inside switch cover)

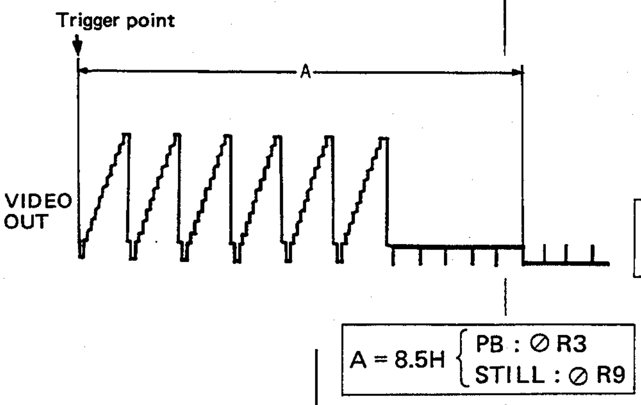
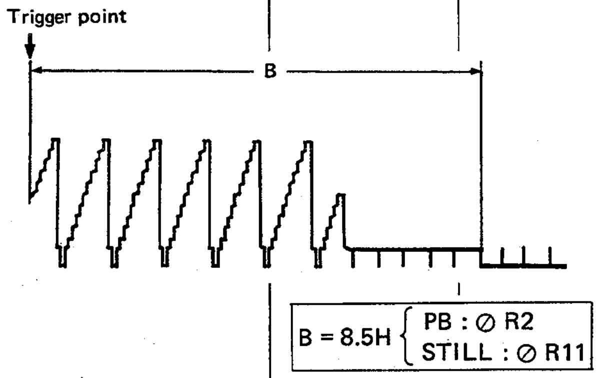

AUDIO
ON
OFF
LIMITER
NR
Hi-Fi
REC
NORM
Hi-Fi
NORMAL
LINE OUT
VIDEO
AGC
VIDEO
DUB
S-VHS
VHS
Y/C 627
OUT
FRAM
C.FRA
FRAME
SERVO
EXT
(EDIT)
VIDEO
EXT
(PB)
SYNC
FULL
REPEAT
MEMORY
AUTO
MODE
LOCAL
REMOTE
REMOTE

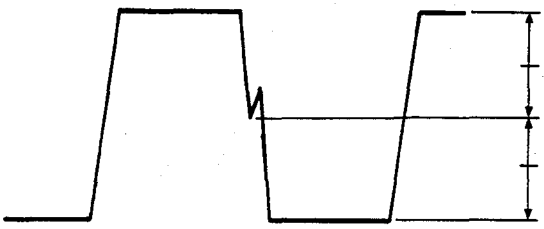
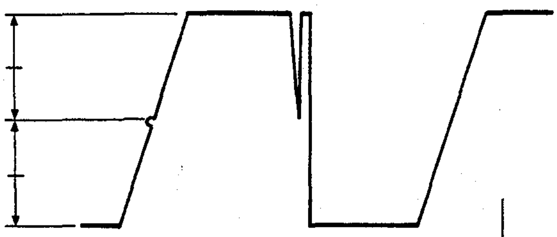
Every VR : Set to the center position.

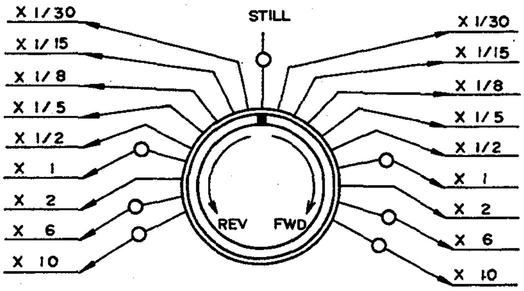
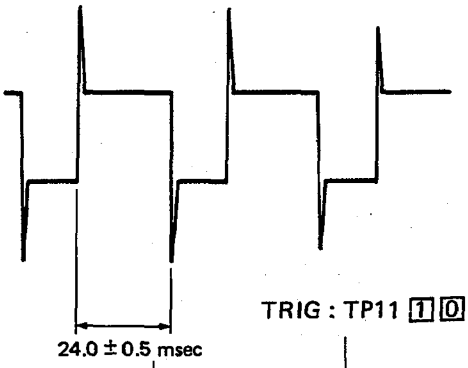
Rear panel


TIME
CODE
AUD 2
NORAM
INPUT
LEVEL
+4dB
0dB
−6dB
HiFi
INPUT
LEVEL
AUDIO
INPUT
SELECT
H COM
SEP
N COM
AUDIO
OUT
TIME
REC
OFF
PLAY
TBC
ON
OFF
AUDIO IN NORM
600 Ω
AUDIO IN HiFi
600 Ω
OFF
ON
BR-S611E only

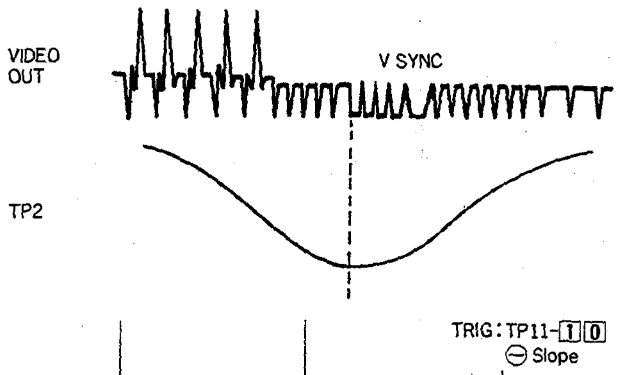
No.	Item	Check point	Adjustment Parts	Signal	Mode	Description
1	Capstan FG duty cycle	TP203 $\boxed{1}\boxed{1}$ TP204 $\boxed{1}\boxed{1}$ GND: TP11 $\boxed{1}\boxed{1}$  A B TP203 ⊘R261 TP204 ⊘R262	R261 $\boxed{1}\boxed{1}$ R262 $\boxed{1}\boxed{1}$	Colour bar A=B	PB	1) Adjust R261 so that duty cycle at TP203 is 50% (A = B). 2) Adjust R262 so that duty cycle at TP204 is 50% (A = B).
2	Capstan stop servo	TP207 $\boxed{1}\boxed{1}$ TP208 $\boxed{1}\boxed{1}$ TP209 $\boxed{1}\boxed{1}$ GND: TP11 $\boxed{1}\boxed{1}$  A B TP207 ⊘R263 TP208 ⊘R264 1.4 V DC GND	R263 $\boxed{1}\boxed{1}$ R264 $\boxed{1}\boxed{1}$	Colour bar	PB ↓ X1/30 ↓ STOP A=B	1) In playback, adjust R263 so that duty cycle at TP207 is 50% (A = B). 2) In FWD X1/30 mode, adjust R264 to obtain 1.4 V DC as minimum level of waveform at TP208. 3) In stop mode, confirm that voltage at TP209 is constant as 5 V DC or 0 V DC.

No.	Item	Check point	Adjustment Parts	Signal	Mode	Description
3	PB switching point ● ⊖ slope  Trigger point A VIDEO OUT A = 8.5H { PB : ⊘ R3 STILL : ⊘ R9 ● ⊕ slope 	VIDEO OUT (75Ω terminated)	R2 $\boxed{1}\boxed{0}$ M3 R3 $\boxed{1}\boxed{0}$ M3 R9 $\boxed{1}\boxed{0}$ M3 R11 $\boxed{1}\boxed{0}$ M3	MH-2 (Stairstep) or MHPE	PB STILL S2 $\boxed{0}\boxed{2}$:OFF	1) Play back the stairstep segment of the alignment tape MH-2. 2) Connect an oscilloscope to TP13 $\boxed{1}\boxed{0}$ for external trigger by minus (–) slope, and adjust R3 so that the value of "A" (in the figure) is 8.5H. 3) Trigger the oscilloscope by plus (+) slope and adjust R2 so that the value of "B" (in the figure) becomes 8.5H. 4) Proceed to the next adjustment of switching point of the search head. Switch S2 of the PB Y board to "OFF" position and set the mode to the still. 5) Connect the oscilloscope to the V-RF terminal on the front panel to confirm FM waveform flat. If not, use the SEARCH or JOG dial to make it flat prior to proceeding to the next step 6). 6) Adjust R9 to obtain the same result as the step 2) above and adjust R11 for the same as the step 3) respectively. 7) Reset S2 $\boxed{0}\boxed{2}$ to "ON" position.
		VIDEO OUT ↓ Monitor TV	R11 $\boxed{1}\boxed{0}$ M3	MH-2 (Colour bars) or MHVE-2	STILL S2 $\boxed{0}\boxed{2}$: ON	8) Connect a monitor TV to the LINE OUT connector. 9) In the Still mode, observe the monitor and fine adjust R11 for the minimum vertical jitter. **Note:** The 8.5H is adjusted here since the playback Y signal is delayed 2H by the Y comb filter and the C signal by the crosstalk canceller.
4	REC switching point	VIDEO OUT (75Ω terminated)	R120 $\boxed{4}\boxed{0}$	Colour bars	REC	1) Trigger the oscilloscope to TP13 $\boxed{1}\boxed{0}$. 2) Adjust R120 so that period from the trigger point to the falling edge of V sync is 8.5H in both trigger modes (by minus and plus slopes) of the oscilloscope.

No.	Item	Check point	Adjustment Parts	Signal	Mode	Description
5	Drum discrimination	TP104 $\boxed{4}\boxed{0}$ 	R67 $\boxed{1}\boxed{0}$	Colour bars TRIG: TP11-$\boxed{1}\boxed{0}$	REC	1) Shortcircuit between TP103 $\boxed{4}\boxed{0}$ and GND with a shorting lead. 2) Adjust R67 to position sampling pulse at the center of trapezoidal waveform of TP104. 3) Remove the shorting lead.
6	Drum search voltage	TP20 $\boxed{1}\boxed{0}$ ↓ Frequency counter TP20 : 696 ± 1 Hz	R9 $\boxed{1}\boxed{0}$ M6	Colour bars	STILL TBC SW: OFF	1) Shortcircuit between TP30 $\boxed{1}\boxed{0}$ and TP31 $\boxed{1}\boxed{0}$ with a shorting lead. 2) Adjust R9 on M6 so that frequency at TP20 is 696 ± 1 Hz in Still mode. 3) Measure voltage at TP16 with a digital voltmeter, and take note of the measured value as "A" mV DC.
		TP16 $\boxed{1}\boxed{6}$ ↓ Digital voltmeter	R12 $\boxed{1}\boxed{0}$ M6	↑	↑	4) Remove the shorting lead. 5) Shortcircuit between TP30 $\boxed{1}\boxed{0}$ and GND with a shorting lead. 6) Measure voltage at TP16 with a digital voltmeter and adjust the voltage to be "A" ± 5 mV DC with R12 on $\boxed{1}\boxed{0}$ M6. 7) Remove the shorting lead.
7	Capstan discrimination	TP101 $\boxed{4}\boxed{0}$ 	R90 $\boxed{1}\boxed{0}$	Colour bars TRIG: TP11-$\boxed{1}\boxed{0}$	REC	1) Shortcircuit between TP102 $\boxed{4}\boxed{0}$ and GND with a shorting lead. 2) Adjust R90 to position sampling pulse at the center of TP101's trapezoidal waveform. 3) Remove the shorting lead.

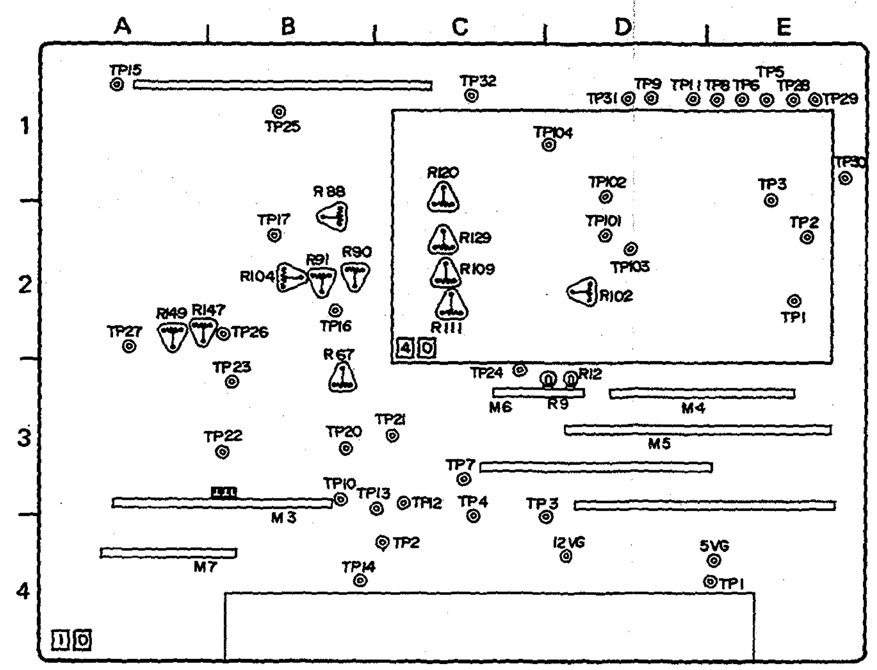
No.	Item	Check point	Adjustment Parts	Signal	Mode	Description
8	Slow discrimination	TP17 $\boxed{1}\boxed{0}$ ↓ Digital Voltmeter FWD x 1/2 = A [mV DC] STILL = A ± 5 [mV DC]	R104 $\boxed{1}\boxed{0}$	Colour bars	X1/2 FWD ↓ STILL	1) Measure DC level at TP17 in FWD X1/2 mode with a digital voltmeter. **Note:** Measure an average value since it fluctuates violently. 2) In Still mode, adjust R104 to raise the DC level at TP17 to 0 ± 5 mV higher than that of the step 1).
		TP15 $\boxed{1}\boxed{0}$ ↓ Frequency counter TP15 : 757 ± 10 Hz	R91 $\boxed{1}\boxed{0}$	Colour bars	X 1/2	3) Measuring frequency at TP15 in FWD X1/2 mode by a frequency counter, adjust R91 to obtain 757 ± 10 Hz for it.  X 1/30 X 1/15 X 1/8 X 1/5 X 1/2 X 1 X 2 X 6 X 10 STILL X 1/30 X 1/15 X 1/8 X 1/5 X 1/2 X 1 X 2 X 6 X 10 REV FWD ○ : Detent point
9	X0.9 & X1.1 speed	TP15 $\boxed{1}\boxed{0}$ ↓ Frequency counter −10% : 1363 ± 20 Hz +10% : 1666 ± 20 Hz	R147 $\boxed{1}\boxed{0}$ R149 $\boxed{1}\boxed{0}$	Colour bars	PB	1) Record color bar signal and playback the tape. Then set the REMOTE/LOCAL switch to "REMOTE". 2) Ground pins 39 (X1/5) & 42 (EXT CAP SRH) of the 45-pin connector on the rear panel. 3) Adjust R147 to obtain 1363 ± 20 Hz as level at TP15. 4) In the same manner as the above steps, ground pins 37 (X2) and 42 and adjust R149 to obtain 1666 ± 20 Hz for TP15.
10	REC CTL duty pulse	TP1 $\boxed{4}\boxed{0}$  TRIG : TP11 $\boxed{1}\boxed{0}$	R129 $\boxed{4}\boxed{0}$	Colour bars	REC	1) By turning R129 adjust the CTL pulse width to be 24.0 ± 0.5 msec.

No.	Item	Check point	Adjustment Parts	Signal	Mode	Description
11	Tracking preset	VIDEO OUT TP2 40	R102 40	Colour bars	REC ↓ PB	1) Set the TRACKING VR to the center detent position. 2) Playing back the signal recorded by the same set, align the falling edge of V. SYNC at the VIDEO OUT terminal with the negative peak of CTL pulse at TP2 by turning R102.
12	X2 preset	VIDEO OUT ↓ Monitor TV	R109 40	MH-2 (Stairstep) or MHPE	Search X2	1) In FWD Search X2 mode, adjust R109 to erase noise bars on the monitor TV.
13	CF SERVO	TP15 10 ↓ Frequency counter TP15 : 1455 ± 5 Hz	R88 10	Colour bars	PB	1) Shortcircuit between TP24 10 and GND. 2) Adjust R88 so that the frequency at TP15 is 1455 ± 5 Hz.



- **Location of check points and adjustment parts**

SERVO 1/10


A
B
C
D
E
1
2
3
4
TP15
TP32
TP31
TP9
TP11
TP8
TP6
TP5
TP28
TP29
TP25
TP104
TP30
R120
TP102
TP3
R88
TP17
TP101
TP2
R129
R91
R90
R104
R109
TP103
R102
R149
R147
TP27
TP26
TP16
R111
TP1
40
R67
TP24
R12
TP23
M6
R9
M4
TP21
TP22
TP20
M5
TP7
TP10
TP13
TP12
TP4
TP3
M3
TP2
12VG
5VG
M7
TP14
TP1
10

10 M3

R	2	3	9	11
Sect.	B3	B3	B3	B3

10 M6

R	9	12
Sect.	D3	D3

40

TP	1	2	3	101	102	103	104
Sect.	E2	E2	E1	D2	D1	D2	D1

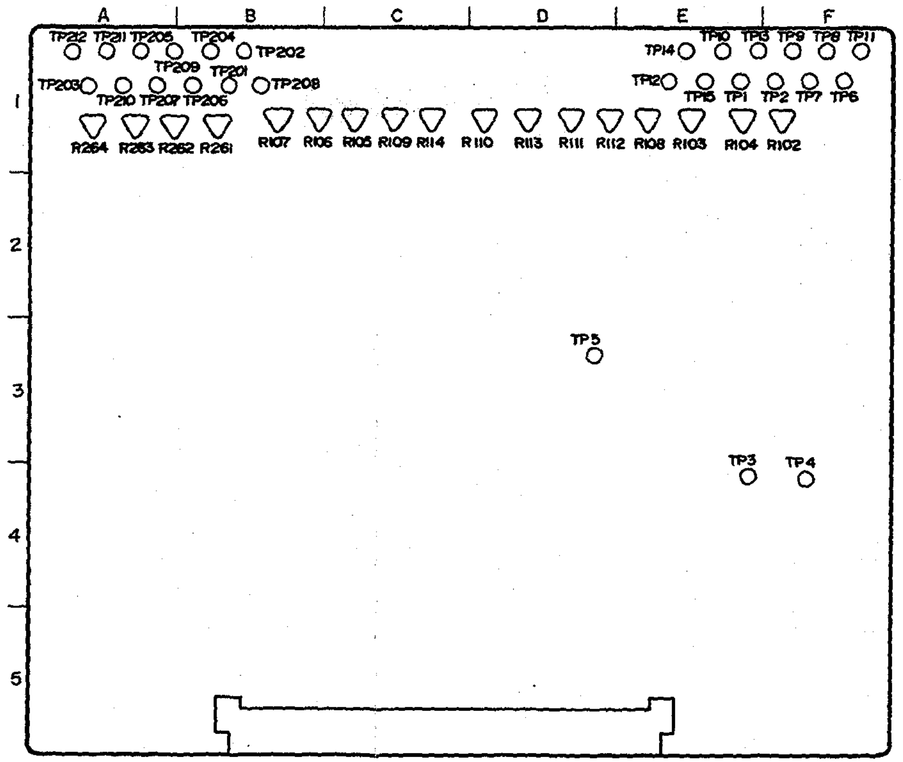
R	102	109	111	120	129
Sect.	D2	C2	C2	C1	C2

10

TP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	20	21	22	23	24
Sect.	E4	C4	D3	C3	E1	E1	C3	E1	D1	B3	D1	C3	C3	B4	A1	B2	B2	B3	C3	B3	B3	C3
TP	25	26	27	28	29	30	31	32														
Sect.	B1	B2	A2	E1	E1	E1	D1	C1														

R	67	88	90	91	104	147	149
Sect.	B3	B2	B2	B2	B2	A2	A2

SERVO 2/11

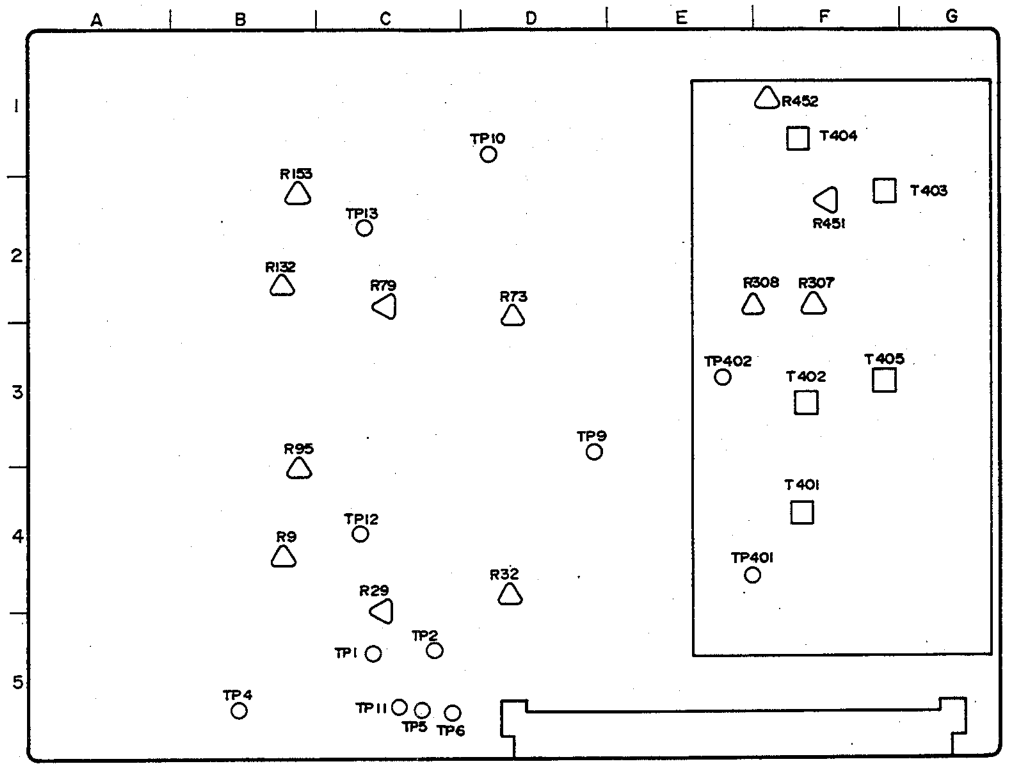

A
B
C
D
E
F
1
2
3
4
5
TP212
TP211
TP205
TP204
TP202
TP209
TP201
TP203
TP208
TP210
TP207
TP206
TP14
TP10
TP13
TP9
TP8
TP11
TP12
TP15
TP1
TP2
TP7
TP6
R264
R263
R262
R261
R107
R106
R105
R109
R114
R110
R113
R111
R112
R108
R103
R104
R102
TP5
TP3
TP4

TP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	201	202	203	204	205
Sect.	E1	E1	E4	F4	D3	F1	F1	F1	F1	E1	F1	E1	E1	E1	E1	B1	B1	A1	B1	A1
TP	206	207	208	209	210	211	212													
Sect.	B1	A1	B1	A1	A1	A1	A1													

R	102	103	104	105	106	107	108	109	110	111	112	113	114	261	262	263	264
Sect.	F1	E1	E1	C1	B1	B1	E1	C1	D1	D1	D1	D1	C1	B1	A1	A1	A1

- **Location of check points and adjustment parts**

FM AUDIO/07

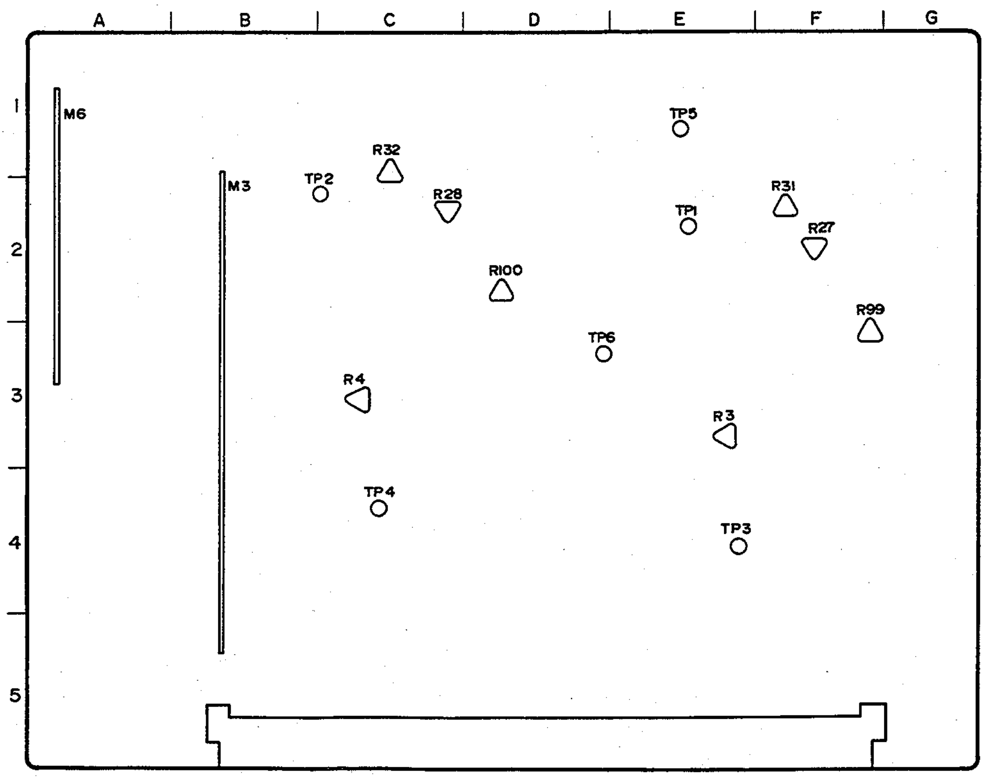

A
B
C
D
E
F
G
1
2
3
4
5
R452
T404
T403
R451
TP10
R153
TP13
R132
R79
R73
R308
R307
TP402
T402
T405
R95
TP9
T401
TP12
R9
R29
R32
TP401
TP2
TP1
TP4
TP11
TP5
TP6

TP	1	2	4	5	6	9	10	11	13	401	402
Sect.	C5	C5	B5	C5	C5	D3	D1	C5	C2	F4	E3

T	401	402	403	404	405
Sect.	F4	F3	F2	F2	F3

R	9	29	32	73	79	95	132	153	307	308	451	452
Sect.	B4	C4	D4	D2	C2	B3	B2	B2	F2	F2	F2	F1

NORMAL AUDIO/08


A
B
C
D
E
F
G
1
2
3
4
5
M6
M3
TP5
R32
TP2
R28
R31
TP1
R27
R100
R99
TP6
R4
R3
TP4
TP3

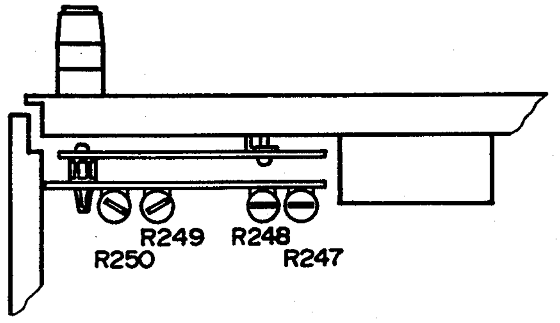
R	3	4	27	28	31	32	99	100
Sect.	E3	C3	F2	C2	F2	C1	F3	D2

TP	1	2	3	4	5	6
Sect.	E2	C2	E4	C4	E1	D3

3.4 AUDIO SYSTEM ADJUSTMENT

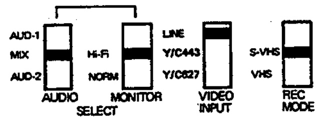
- For adjustment of the FM AUDIO and NORMAL AUDIO boards, use the extension board PGJ05004. For a reference, these two boards cannot be taken out of the set since they are connected to other boards with wires.
- 0 dBs = 0.775 Vrms = 2.19 Vp-p
  0 dBm = 0.775 Vrms with a 600 Ω load
- Mode of the AUDIO circuit is not determined by the REC MODE switch, but done by the tape used (S-VHS or VHS).
  When operation mode is specified, use a cassette tape of the indicated mode.

REAR 29


R249
R248
R250
R247

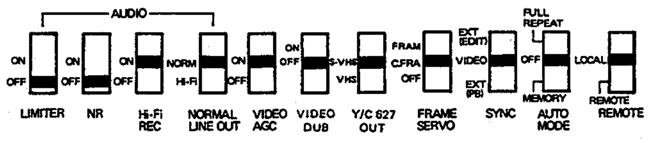
- Unless otherwise indicated, set switches and VRs as follows.

Front panel

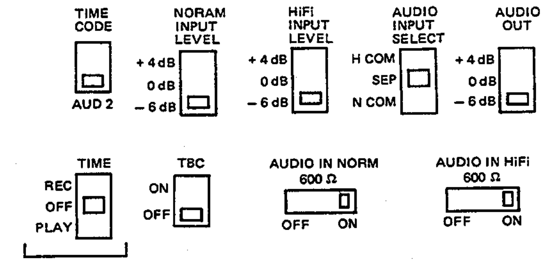

AUD-1
MIX
AUD-2
Hi-Fi
NORM
LINE
Y/C443
Y/C627
S-VHS
VHS
AUDIO
MONITOR
SELECT
VIDEO
INPUT
REC
MODE

HiFi REC LEVEL VR : Set it according to No. 1.
NORMAL REC LEVEL VR : Set it according to No. 1.
Other VRs : Set to the center position respectively.

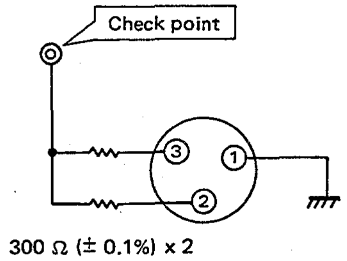
(Inside switch cover)

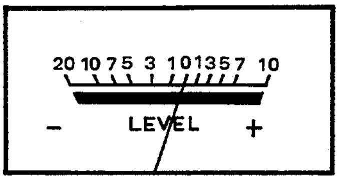
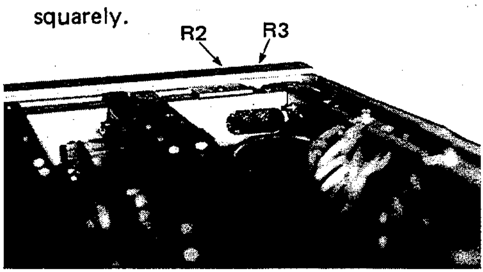

AUDIO
ON
OFF
ON
OFF
ON
OFF
NORM
Hi-Fi
ON
OFF
ON
OFF
S-VHS
VHS
FRAM
C.FRA
OFF
EXT (EDIT)
VIDEO
EXT (PB)
FULL REPEAT
OFF
MEMORY
LOCAL
REMOTE
LIMITER
NR
Hi-Fi REC
NORMAL LINE OUT
VIDEO AGC
VIDEO DUB
Y/C 627 OUT
FRAME SERVO
SYNC
AUTO MODE
REMOTE

Rear panel


TIME CODE
AUD 2
NORAM INPUT LEVEL
+4dB
0dB
-6dB
HiFi INPUT LEVEL
+4dB
0dB
-6dB
AUDIO INPUT SELECT
H COM
SEP
N COM
AUDIO OUT
+4dB
0dB
-6dB
TIME
REC
OFF
PLAY
TBC
ON
OFF
AUDIO IN NORM 600 Ω
OFF
ON
AUDIO IN HiFi 600 Ω
OFF
ON

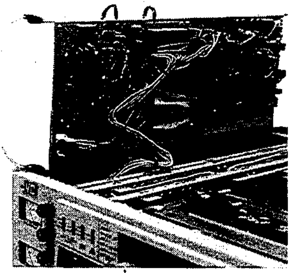
BR-S611E only

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
1.	REC level VR setting					
(1)	Normal audio	N. AUDIO OUT ↓ VTVM (Load: 600 Ω)	N. REC LEV. VR	1 kHz/–6 dBm ↓ N. AUDIO	E-E	1) Use the REC LEVEL VR on the front panel to adjust the output level of the individual check points to –6.0 dBm.
(2)	Hi-Fi audio	Hi-Fi OUT ↓ VTVM (Load: 600 Ω) Setting level : –6.0 dBm	Hi-Fi REC LEV. VR	1 kHz/–6 dBm ↓ Hi-Fi IN	E-E	
	* To proceed to do the following adjustments, leave the REC LEV. VR settings as done in this item 1.					
2	LINE OUTPUT amp. balance					
(1)	Normal audio	N. AUDIO OUT	L-ch: R247 R-ch: R248 $\boxed{2}\boxed{9}$	1 kHz/–6 dBm ↓ N. AUDIO IN	E-E	1) Connect the circuit shown below to the AUDIO OUT terminal. 
(2)	Hi-Fi audio	Hi-Fi OUT	L-ch: R249 R-ch: R250 $\boxed{2}\boxed{9}$	1 kHz/–6 dBm ↓ Hi-Fi IN	E-E	2) Adjust so that the output at the check point shown in the figure is minimum (less than –30 dBs).

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
3	Level meter	Audio level meter  	L-ch: R2 $\boxed{3}\boxed{9}$ R-ch: R3 $\boxed{3}\boxed{9}$	1 kHz/−6dBm ↓ Hi-Fi IN AUD. MOIN. SELECT: "Hi-Fi"	E-E	1) Correctly set the audio level meter so that the needle points just "0" as viewed squarely. 
		↑	–	1 kHz/−6dBm ↓ N. AUDIO IN AUD. MONI. SELECT: "NOR"	E-E	2) Set the AUDIO MONITOR OUT switch to "NORMAL" position. 3) Looking at the AUDIO LEVEL meter squarely, confirm that the pointer shakes in a range of 0 ± 0.5 graduation.
4	Normal audio frequency characteristic	N. AUDIO OUT ↓ VTVM (Load: 600 Ω) Specifications of frequency characteristic 400 Hz: 0 dB (Reference) 100 Hz: +0.5 ± 2.0 dB 8 kHz: 0 dB ⊘ R27/R28	L-ch: R27 $\boxed{0}\boxed{8}$ R-ch: R28 $\boxed{0}\boxed{8}$	MH-8 (400 Hz 100 Hz 8 kHz)	PB NR SW: OFF	1) Confirm that PB level of 100 Hz segment of the alignment tape MH-8 is +0.5 ± 2.0 dB in comparison with PB level of the 400 Hz segment. 2) By turning R27 (L-ch) and R28 (R-ch), equalize PB level of the 8 kHz signal with that of the 400 Hz signal.
5	Normal audio PB level	N. AUDIO OUT ↓ VTVM (Load: 600 Ω) PB level : −8.0 dBm	L-ch: R31 $\boxed{0}\boxed{8}$ R-ch: R32 $\boxed{0}\boxed{8}$	MH-2 (1 kHz) or MHAE	PB NR SW: OFF	1) Adjust PB level for −8.0 dBm.

No.	Item	Check point	Adjustment Parts	Signal	Mode	Description
6	Audio bias frequency & level	TP5 08 ↓ Frequency counter Bias freq.: 70 ± 3 kHz	L405 07	No signal	REC	1) Adjust L405 to obtain 70 ± 3 kHz as bias frequency at TP5.
		L-ch: TP5 08 R-ch: TP6 08 ↓ Oscilloscope Bias osc. level: Max.	L-ch: T403 07 R-ch: T404 07	No signal	REC	2) Turn R451 07 and R452 07 fully counterclockwise. 3) Maximize bias oscillation level for both channels.
		L-ch: CN1 pin 2 (GND: CN1 pin 1) R-ch: CN1 pin 3 (GND: CN1 pin 4) (All in 35) ↓ VTVM S-VHS bias level: 4.6 mVrms	L-ch: R451 07 R-ch: R452 07	No signal	S-VHS REC	**Note 1:** The A/C HEAD board 35 is located near the drum ass'y. 4) Adjust bias level for 4.6 mVrms. • If result is unsatisfactory, repeat the step 3) above.
		↑ VHS bias level: 3.2 mVrms	L-ch: R307 07 R-ch: R308 07	No signal	VHS REC	5) Adjust bias level for 3.2 mVrms. **Note 2:** S-VHS and VHS bias levels specified in the above steps will be possibly re-adjusted in the next item No. 8. The following are specifications for re-adjustment. S-VHS : 3.0 – 6.0 mVrms VHS : 2.2 – 4.2 mVrms
7	Normal audio REC/PB level	N. AUDIO OUT ↓ VTVM (Load: 600 Ω) VHS REC/PB level: –6.0 ± 0.5 dBm (Channel difference: within 0.5 dB)	L-ch: R3 08 R-ch: R4 08	1 kHz/–6 dBm ↓ N. AUDIO IN	VHS REC ↓ PB NR SW : "OFF"	1) Record 1 kHz/–6 dBm signal and play it back. 2) At this time, confirm that PB level is –6.0 ± 0.5 dBm and channel difference is within 0.5 dB. • If not, roughly adjust R3 for L-ch while R4 for R-ch once, and then repeat the steps 1) and 2) until satisfactory results are obtained.
		↑ S-VHS REC/PB level: –6.0 $^{+1.8}_{+0.2}$ dBm (Channel difference: within 0.5 dB)	–	1 kHz/–6 dBm ↓ N. AUDIO IN	S-VHS REC ↓ PB	3) Record 1 kHz/–6 dBm signal and play it back. 4) At this time, confirm that PB level is –6.0 $^{+1.8}_{+0.2}$ dBm and channel difference is within 0.5 dB. • If not, turn R3 for L-ch while R4 for R-ch not to exceed tolerance of VHS REC/PB level specifications, and then repeat the steps 3) and 4) to obtain satisfactory results.

<table>
<tr><th>No.</th><th>Item</th><th>Check point</th><th>Adjustment Parts</th><th>Signal</th><th>Mode</th><th>Description</th></tr>
<tr><td>8</td><td>Normal audio REC/PB freq. characteristic</td><td>N. AUDIO OUT
↓
VTVM
(Load: 600Ω)

Frequency characteristic
(S-VHS, NR switch: OFF)
<table>
<tr><td>1 kHz</td><td>0 dB (Reference)</td></tr>
<tr><td>10 kHz</td><td>0.0 ± 0.5 dB</td></tr>
</table>
</td><td>–</td><td>–26 dBm
1 kHz
10 kHz
↓
N. AUDIO IN</td><td>S-VHS
REC
↓
PB

NR SW:
"OFF"</td><td>1) Connect the shorting lead between the PWB bracket (C) and the frame. Record –26 dBm 1 kHz & 10 kHz signals and play them back respectively.
2) Confirm that PB level of the 10 kHz signal is 0.0 ± 0.5 dB in comparison to that of the 1 kHz signal.
• If it is out of the specifications;
a) PB level of 10 kHz signal is higher:
According to the previous item No. 6 step 4), raise the bias level not to exceed the limit of 6.0 mVrms.
b) PB level of 10 kHz signal is lower:
Decrease the bias level in the same manner as the above step a). (3.0 mVrms at the lowest)
After the above adjustment, repeat the steps 1) and 2) until a satisfactory result is obtained.</td></tr>
<tr><td></td><td></td><td>↑

Frequency characteristic
(S-VHS, NR switch: ON)
<table>
<tr><td>1 kHz</td><td>0 dB (Reference)</td></tr>
<tr><td>12 kHz</td><td>0.0 ± 2.5 dB</td></tr>
</table></td><td>–</td><td>–26 dBm
1 kHz
12 kHz
↓
N. AUDIO IN</td><td>S-VHS
REC
↓
PB

NR SW
:"ON"</td><td>3) With the NR switch turned on, record the 1 kHz & 12 kHz signals and play them back respectively.
4) Confirm that PB level of the 12 kHz signal is 0.0 ± 2.5 dB and channel difference is within 3.0 dB in comparison to that of the 1 kHz signal.
5) Turn off the NR switch.</td></tr>
<tr><td></td><td></td><td>↑

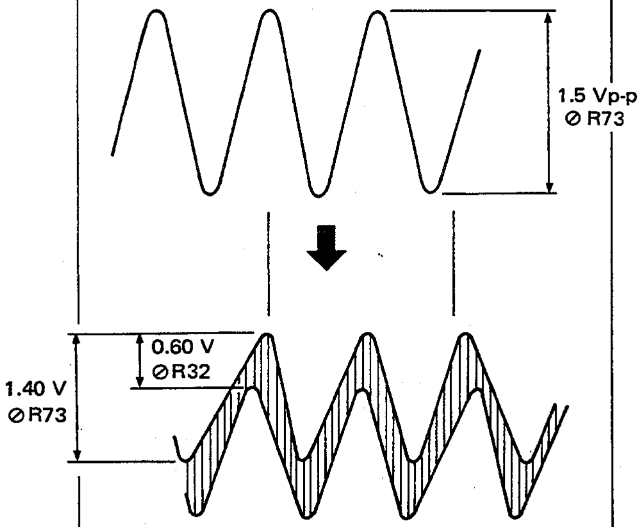
Frequency characteristic
(VHS, NR switch: OFF)
<table>
<tr><td>1 kHz</td><td>0 dB (Reference)</td></tr>
<tr><td>10 kHz</td><td>0.0 ± 0.5 dB</td></tr>
</table></td><td>–</td><td>–26 dBm
1 kHz
10 kHz
↓
N. AUDIO IN</td><td>VHS
REC
↓
PB

NR SW:
"OFF"</td><td>6) Record the 1 kHz and 10 kHz signals and play them back respectively.
7) Comparing both the PB levels, confirm that 10 kHz level is 0.0 ± 0.5 dB.
• If the result is out of the specifications;
a) 10 kHz PB level is lower:
Decrease the bias level according to the previous item No.6 step 5) (2.2mVrms at the lowest).
b) 10 kHz PB level is higher:
Increase the bias level in the same manner as the above step a) (4.2 mVrms at the maximum).
After the above adjustment a) or b), repeat the steps 6) and 7) to meet the specifications.</td></tr>
<tr><td></td><td></td><td>↑

Frequency characteristic
(VHS, NR switch: ON)
<table>
<tr><td>1 kHz</td><td>0 dB (Reference)</td></tr>
<tr><td>12 kHz</td><td>0.0 ± 2.5 dB</td></tr>
</table></td><td>–</td><td>–26 dBm
1 kHz
12 kHz
↓
N. AUDIO IN</td><td>VHS
REC
↓
PB

NR SW
:"ON"</td><td>8) With the NR switch turned on, record the 1 kHz and 12 kHz signals and play them respectively.
9) Comparing to the 1 kHz signal, PB level of the 12 kHz signal is 0.0 ± 2.5 dB and channel difference is within 3.0 dB.
10) Turn off the NR switch and remove the shorting lead.</td></tr>
</table>

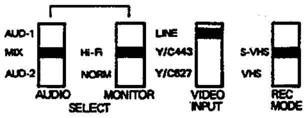
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
9	BR-S811E Audio insert erase voltage	TP401 $\boxed{0}\boxed{7}$ ↓ Oscilloscope L-ch ERASE level : Max.	T401 $\boxed{0}\boxed{7}$	No signal	AUD-1 INSERT	1) Maximize ERASE level at TP401. 2) Temporarily release the insert editing mode, then set for the AUD-1 insert editing mode. Confirm the level does not decline from the above adjustment.
		TP402 $\boxed{0}\boxed{7}$ ↓ Oscilloscope R-ch ERASE level : Max.	T402 $\boxed{0}\boxed{7}$	No signal	AUD-2 INSERT	3) Maximize ERASE level at TP402. 4) Temporarily release the insert editing mode, then set for the AUD-2 insert editing mode. Confirm the level does not decline from the above adjustment.
		TP401 $\boxed{0}\boxed{7}$ TP402 $\boxed{0}\boxed{7}$ ↓ Oscilloscope	–	No signal	REC	5) In the REC mode for both channels, confirm that waveform level at TP401 and TP402 is more than 180 mVp-p.
	BR-S611E Audio dub. erase voltage	TP402 $\boxed{0}\boxed{7}$ ↓ Oscilloscope	T402 $\boxed{0}\boxed{7}$	No signal	AUDIO DUB	1) Maximize ERASE level at TP402. 2) Set for the STOP mode, then set for the AUDIO· DUB mode. Confirm the level does not decline from the above adjustment.
		TP401 $\boxed{0}\boxed{7}$ ↓ Oscilloscope	T401 $\boxed{0}\boxed{7}$	No signal	REC	3) Maximize ERASE level at TP401. 4) In the REC mode for both channels, confirm that waveform level at TP401 and TP402 is more than 180 mVp-p.
10	BR-S811E Crosstalk cancel	N. AUDIO OUT (L-ch) ↓ VTVM (Load: 600 Ω) Output level (crosstalk) : Minimum	R99 $\boxed{0}\boxed{8}$	3 kHz/ –20 dBm ↓ N. AUDIO IN	AUD-2 INSERT	1) Set to AUD-2 INSERT mode with a blank cassette tape on which no audio signal has been recorded. 2) Minimize L-ch output level by R99.
		N. AUDIO OUT (R-ch) ↓ VTVM (Load: 600 Ω) Output level (crosstalk) : Minimum	R100 $\boxed{0}\boxed{8}$	3 kHz/ –20 dBm ↓ N. AUDIO IN	AUD-1 INSERT	3) Set to AUD-1 INSERT mode with a blank cassette tape on which no audio signal has been recorded. 4) Minimize R-ch output level by R100.
	BR-S611E Crosstalk cancel	N. AUDIO OUT (L-ch) ↓ VTVM (Load: 600 Ω)	R99 $\boxed{0}\boxed{8}$	3 kHz/ –20 dBm ↓ N. AUDIO IN	AUD DUB	1) Set to AUD DUB mode with a blank cassette tape on which no audio signal has been recorded. 2) Minimize L-ch output level by R99.
11	Hi-Fi audio PB level	Hi-Fi OUT ↓ VTVM (Load: 600 Ω) Hi-Fi audio PB level : –6.0 dBm	L-ch: R9 R-ch: R132 $\boxed{0}\boxed{7}$	MH-F8 (1 kHz)	PB	1) Adjust R9 (L-ch) and R132 (R-ch) so that PB output level of the 1 kHz segment of the alignment tape MH-F8 is –6.0 dBm for both channels.

No.	Item	Check point	Adjustment Parts	Signal	Mode	Description
12	Hi-Fi audio carrier freq.	TP1 07 ↓ Frequency counter	R29 07	No signal	REC	1) Adjust R29 so that carrier frequency at TP1 becomes $1.400^{+0.000}_{-0.005}$ MHz.
		L-ch carrier frequency: $1.400^{+0.000}_{-0.005}$ MHz				
		TP2 07 ↓ Frequency counter	R79 07	No signal	REC	2) Adjust R79 so that carrier frequency at TP2 becomes $1.800^{+0.000}_{-0.005}$ MHz.
		R-ch carrier frequency: $1.800^{+0.000}_{-0.005}$ MHz				
13	VHS Hi-Fi audio REC FM level	TP4 07 ↓ Oscilloscope	R32 07 R73 07	No signal	VHS REC	1) Turn R32 07 fully clockwise as viewed from the parts side. 2) Adjust R73 so that signal level at TP4 is temporarily becomes 1.5 Vp-p. 3) Turn R32 and R73 alternately for fine adjustment of the level to meet the specifications.
						
14	VHS Hi-Fi audio REC/PB level (Deviation)	Hi-Fi OUT ↓ VTVM (Load: 600 Ω)	L-ch: R95 07 R-ch: R153 07	1 kHz/–6dBm ↓ Hi-Fi IN	VHS REC ↓ PB	1) Record the 1 kHz/–6 dBm signal and play it back. 2) Confirm that PB level is –6.0 ± 0.5 dBm for both channels and channel difference is within 0.5 dB. ● If not: When L-ch is out of the specifications, roughly turn R95, while R153 for R-ch, and then repeat the steps 1) and 2) until it meets the specifications.
		VHS Hi-Fi AUDIO REC/PB level: –6.0 ± 0.5 dBm (Channel difference: within 0.5 dB)				
15	PB FM level Check (refer to 3.5.5 No. 3(2))	A-FF terminal (Front panel) ↓ Oscilloscope	–	No signal	VHS REC ↓ PB	1) Without supply of input signal, perform recording and playback of the recorded section. 2) Confirm that the FM level is 170 mVp-p.
			TRIG: TP11 10			

3.5 VIDEO SYSTEM ADJUSTMENT

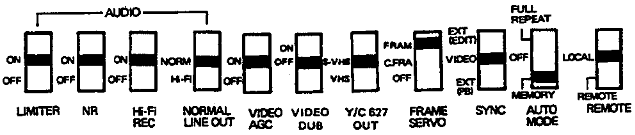
- Unless otherwise indicated, set switches and VRs as follows.

Front panel

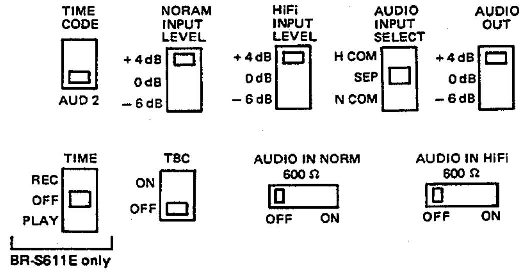

AUD-1
MIX
AUD-2
AUDIO
Hi-Fi
NORM
MONITOR
SELECT
LINE
Y/C443
Y/C627
VIDEO
INPUT
S-VHS
VHS
REC
MODE

VIDEO LEVEL VR : Set it according to the item No. 1.

Switches inside the switch cover


AUDIO
ON
OFF
LIMITER
ON
OFF
NR
ON
OFF
Hi-Fi
REC
NORM
Hi-Fi
NORMAL
LINE OUT
ON
OFF
VIDEO
AGC
ON
OFF
VIDEO
DUB
S-VHS
VHS
Y/C 627
OUT
FRAM
C.FRA
OFF
FRAME
SERVO
EXT
(EDIT)
VIDEO
EXT
(PB)
SYNC
FULL
REPEAT
OFF
MEMORY
AUTO
MODE
LOCAL
REMOTE
REMOTE

Rear panel


TIME
CODE
AUD 2
NORAM
INPUT
LEVEL
+4dB
0dB
−6dB
HiFi
INPUT
LEVEL
+4dB
0dB
−6dB
AUDIO
INPUT
SELECT
H COM
SEP
N COM
AUDIO
OUT
+4dB
0dB
−6dB
TIME
REC
OFF
PLAY
BR-S611E only
TBC
ON
OFF
AUDIO IN NORM
600 Ω
OFF
ON
AUDIO IN HiFi
600 Ω
OFF
ON

- **Adjustment procedures**

The adjustment procedures are organized under the following titles.

3.5.1 Y/C separator & REC Y CIRCUIT
LINE INPUT adjustments for Y/C separatator (essentially the same for both Normal and S-VHS modes) and Y signal recording system (circuit adjustments up to frequency modulation).

3.5.2 REC C CIRCUIT
Colour signal system adjustments. Circuit adjustments up to down conversion.

3.5.3 RF CIRCUIT
Response adjustments after head replacement.

3.5.4 PB Y CIRCUIT
Luminance signal playback system adjustments

3.5.5 PB C CIRCUIT
Colour signal playback system adjustments

- **Board switch settings**

Unless otherwise indicated, the video system board switches should be left at their factory settings (see page 1-5).

- **Extension boards**

It is required to use an extension board for adjustment of the following boards.

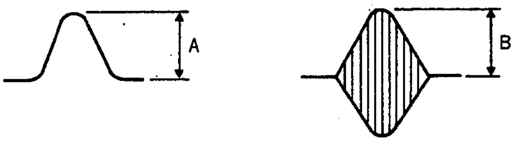
REC Y $\boxed{0}\boxed{1}$	PGJ05005
Y/C SEP $\boxed{0}\boxed{4}$	
REC C $\boxed{6}\boxed{6}$	
FM REC/PB $\boxed{6}\boxed{7}$	
PB Y $\boxed{0}\boxed{2}$	PGJ05004
PB C $\boxed{0}\boxed{3}$	
CROSS TALK CANCEL $\boxed{6}\boxed{3}$	
Y 2H DELAY $\boxed{6}\boxed{5}$	
VIDEO P/R AMP $\boxed{0}\boxed{5}$	PGJ05007-2
RF DL & C ENHANCER $\boxed{3}\boxed{7}$	PGJ05006

- **Notes during adjustments**

A. Y/C delay

Set dual trace oscilloscope as follows when adjusting Y/C dalay using a 20T pulse.

1. Connect the oscilloscope probes to the indicated test points. Trigger with the Y signal.
2. Use the "Chop" mode and observe the 20T pulse.
3. Adjust the oscilloscope gain to obtain the same A and B levels indicated in Fig. a.



Y signal C signal

Fig. a

4. Set the oscilloscope to "Add" mode.

B. Y/C443 IN with composite input

Among the video system adjustments is the need to supply a video signal to the Y/C443 IN connector via the 7-pin conversion cable (PGJ05028). Normally the Y signal (without burst) is applied to the Y input, but if the signal generator does not have means for switching off the burst signal, the composite video signal can also be used. In this case, set the AGC OFF (in order to avoid error) and adjust the Video Level control as described in Item 3.5.1. No.1.

C. 21 MHz crystal test point

The 1H delay circuit uses a 21 MHz CCD clock frequency. This can interfere with the waveform when monitoring nearby test points. If this occurs, set the BW Limit switch of the oscilloscope to ON to reduce the vertical axis frequency bandwidth and allow easier observation. If the oscilloscope does not have this function, read the level at the center of the waveform.

D. MBVE-14H alignment tape

The MBVE-14H is intended for auto equalizer adjustment and includes the reference signal on line 11. When playing this tape, set the FM R/P board SW1-1, 2 and 3 for line 11. Since the response of this tape differs from the MBVE-3H, it should not be used for RF equalizer adjustment.

E. Frequency response

Read the specified levels of the sweep signal waveform as follows.

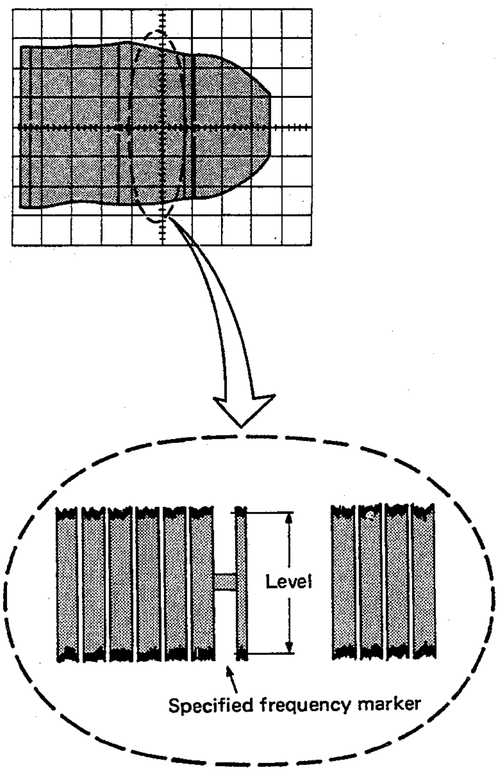
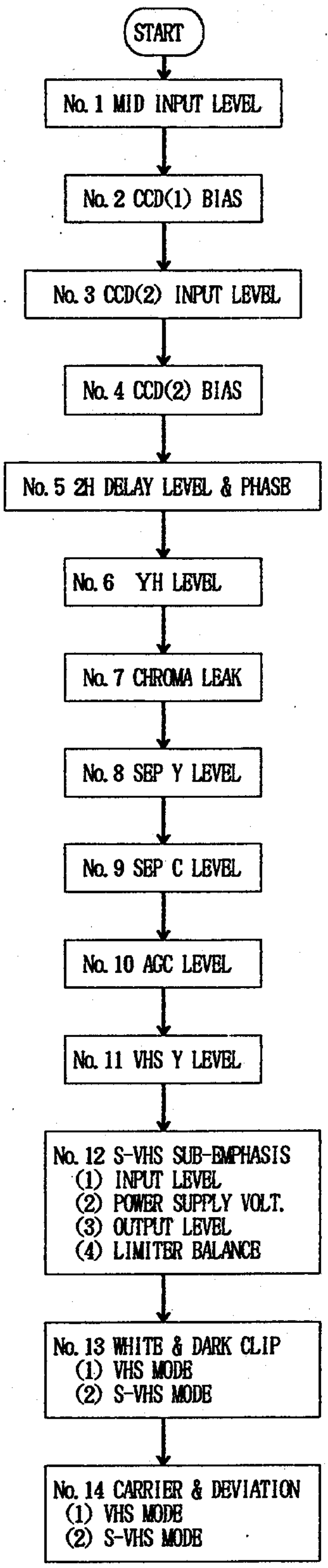
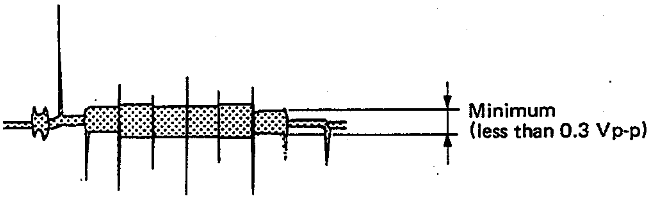
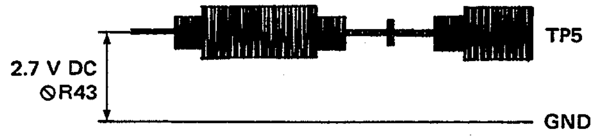
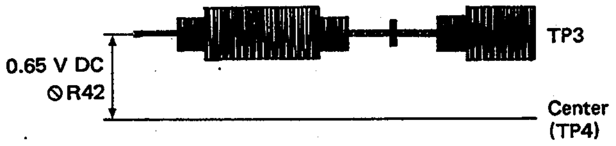
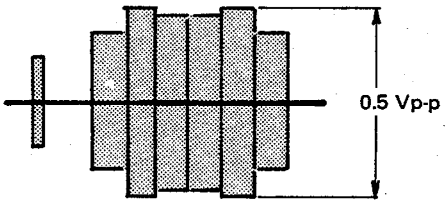


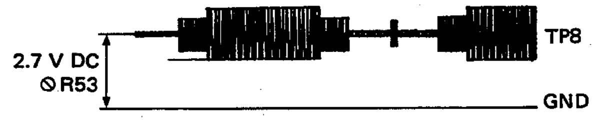
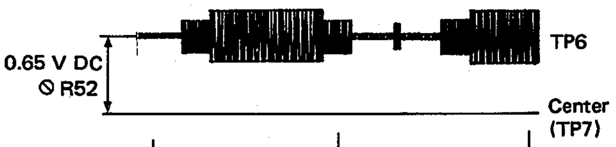
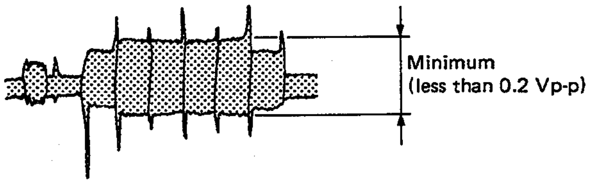
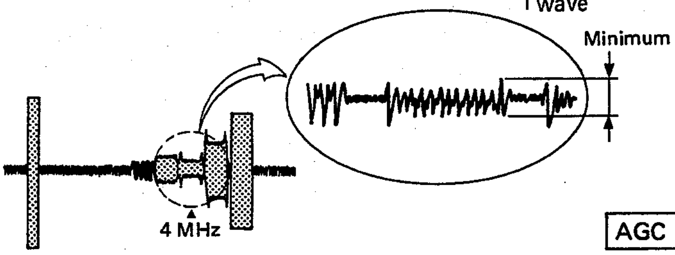
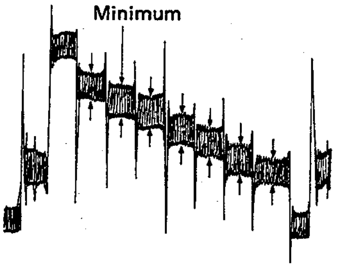
Fig. b

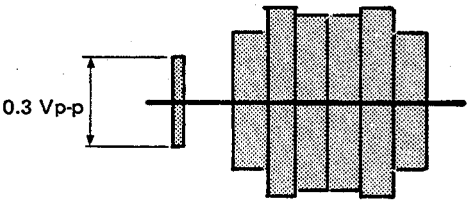
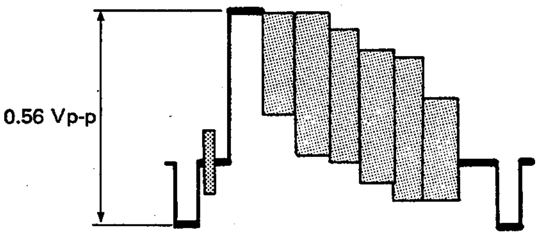
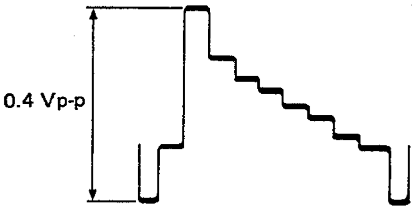
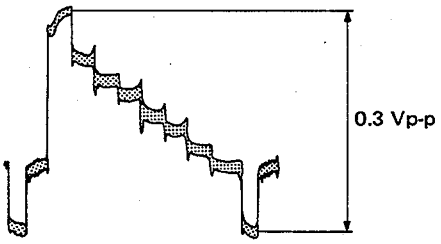
Measure at the noise center as indicated in Fig. b.

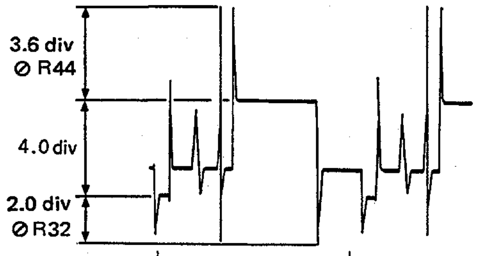
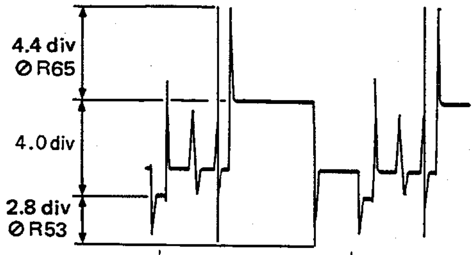
3.5.1 Y/C SEPARATOR & REC Y CIRCUIT

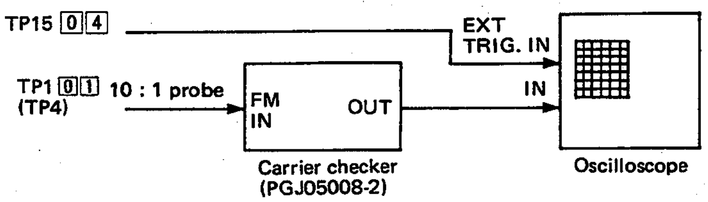
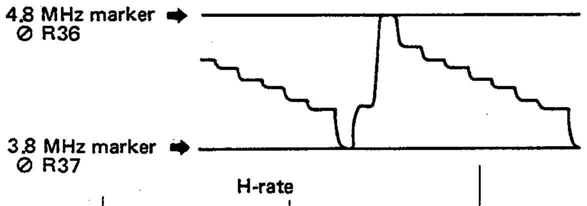
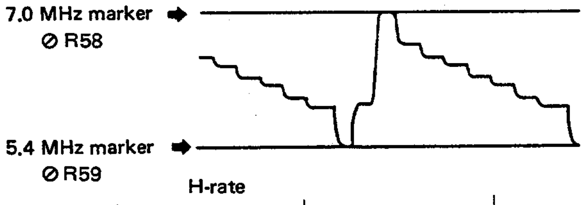

START
No. 1 MID INPUT LEVEL
No. 2 CCD(1) BIAS
No. 3 CCD(2) INPUT LEVEL
No. 4 CCD(2) BIAS
No. 5 2H DELAY LEVEL & PHASE
No. 6 YH LEVEL
No. 7 CHROMA LEAK
No. 8 SEP Y LEVEL
No. 9 SEP C LEVEL
No. 10 AGC LEVEL
No. 11 VHS Y LEVEL
No. 12 S-VHS SUB-EMPHASIS
(1) INPUT LEVEL
(2) POWER SUPPLY VOLT.
(3) OUTPUT LEVEL
(4) LIMITER BALANCE
No. 13 WHITE & DARK CLIP
(1) VHS MODE
(2) S-VHS MODE
No. 14 CARRIER & DEVIATION
(1) VHS MODE
(2) S-VHS MODE

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
1	MID input level	TP15 $\boxed{0}\boxed{4}$	VIDEO LEVEL VR	Colour bars AGC : "OFF"	E-E	1) Set the AGC switch (on the front panel) to "OFF" position. 2) Adjust the VIDEO LEVEL VR (front panel) to obtain 1.1 Vp-p at TP15 for video signal level (Sync tip – 100% white).
		TP1 $\boxed{0}\boxed{4}$ TP2 $\boxed{0}\boxed{4}$	R16 $\boxed{0}\boxed{4}$	↑	↑	3) Set the oscilloscope for the ADD mode and observe TP1 and INV TP2 waveforms. 4) Adjust R16 to minimize level of the chroma signal.
		TP1 – TP2 				
	Note: For further adjustments of the item No. 2 through 17, keep the VIDEO LEVEL VR as it is hereby set.					
2	CCD (1) bias	TP5 $\boxed{0}\boxed{4}$	R43 $\boxed{0}\boxed{4}$	Colour bars AGC : "OFF"	E-E	1) Observing waveform at TP5 with the oscilloscope set for DC coupling. 2) Turn R42 fully counterclockwise. At the same time, adjust R43 to obtain 2.7 V DC at TP5 as its level.
						
		TP3 $\boxed{0}\boxed{4}$ TP5 $\boxed{0}\boxed{4}$	R42 $\boxed{0}\boxed{4}$	↑ AGC : OFF"	↑	3) Set the oscilloscope for 500 mV/div. DC coupling and connect its probe to TP4. 4) Move the oscilloscope " ↕ " POSITION knob up and down to position the waveform's DC potential on the center line of the screen. 5) Change oscilloscope's connection from TP4 to TP3 and adjust R42 so that DC potential of TP3 is 0.65 V DC higher than the oscilloscope's center line (TP4 level).
		 DC potential of TP3 is 0.65 V DC higher than that of TP4.				
3	CCD (2) input level	TP6 $\boxed{0}\boxed{4}$	R49 $\boxed{0}\boxed{4}$	Colour bars AGC : "OFF"	E-E	1) Adjust R49 to obtain 0.5 Vp-p as the level at TP6.
						

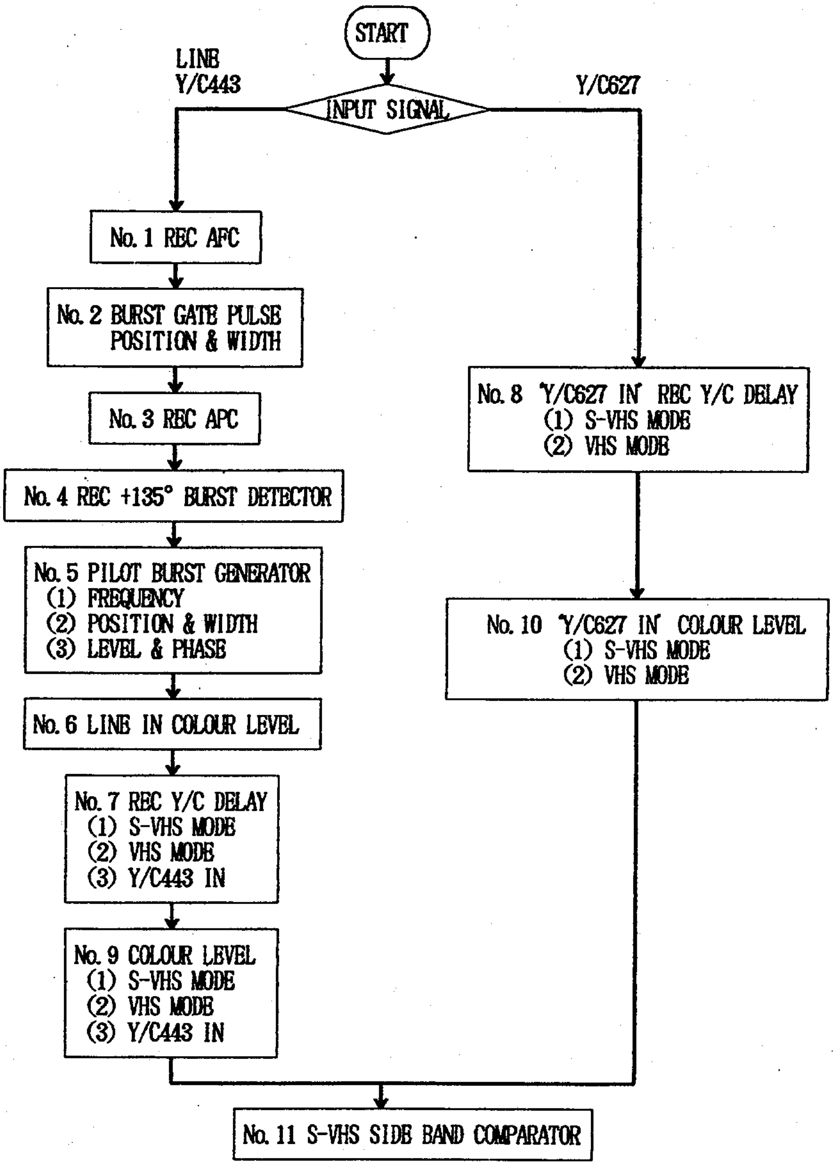
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
4	CCD (2) bias	TP8 [0][4] 	R53 [0][4]	Colour bars AGC : "OFF"	E-E	1) Observing waveform at TP8 with the oscilloscope set for DC coupling. 2) Turn R52 fully counterclockwise. At the same time, adjust R53 to obtain 2.7 V DC as DC potential at TP8.
		TP6 [0][4] TP7 [0][4] 	R52 [0][4]	↑ AGC : "OFF"	↑	3) Set the oscilloscope for 500 mV/div. DC coupling, and connect it to TP7. 4) Move the oscilloscope's " ⇕ " POSITION knob up and down to position TP7's DC potential on the center line of the oscilloscope. 5) Change oscilloscope's connection from TP7 to TP6 and adjust R52 so that average DC level of TP6 is 0.65 V DC higher than the center line (TP7 level).
5	2H delay level & phase	TP10 [0][4] TP11 [0][4] TP10 + TP11 	R68 [0][4] R64 [0][4]	Colour bars AGC : "OFF"	E-E	1) Set the oscilloscope for the ADD mode, and observe TP10 and TP11 waveforms. 2) Alternately adjust R68 and R64 to minimize level of the chroma signal.
6	YH level	TP12 [0][4] 	R103 [0][4]	Multi-burst or 3.9 MHz sine wave AGC : "OFF"	E-E	• Multi-burst is used for this adjustment: 1) Adjust R103 to minimum the 4.0 MHz level at TP12. • 3.9 MHz sine wave is used for this adjustment: 1) Adjust R103 to minimum the 3.9 MHz level at TP12.
7	Chroma leak	TP5 [0][1] 	R111 [0][4] R112 [0][4]	Colour bars AGC : "OFF"	E-E	1) Alternately adjust R111 and R112 to minimize chroma leakage. 2) Confirm that chroma leak is less than 50 mVp-p.
8	SEP Y level	TP13 [0][4] TP15 [0][4]	R122 [0][4]	Colour bars AGC : "OFF"	E-E	1) Adjust R122 to equalize luminance levels at TP13 and TP15.

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
9	SEP C level	TP12 $\boxed{0}\boxed{4}$ 	R127 $\boxed{0}\boxed{4}$	Colour bars	E-E AGC : "OFF"	1) Adjust R127 so that burst level at TP12 becomes 0.3 Vp-p. 2) Return the AGC switch to "ON" position.
10	AGC level	TP2 $\boxed{0}\boxed{1}$ 	R47 $\boxed{0}\boxed{1}$	Colour bars	E-E	1) Adjust R47 to obtain 0.56 Vp-p as the level between sync. tip and the 100% white.
11	VHS Y level	TP7 $\boxed{0}\boxed{1}$ 	R94 $\boxed{0}\boxed{1}$	Colour bars	E-E	1) Adjust R94 so as to obtain 0.4 Vp-p as the signal level at TP7.
12	S-VHS Sub-emphasis					
(1)	Input level	TP10 $\boxed{0}\boxed{1}$	R149 $\boxed{0}\boxed{1}$	Colour bars	S-VHS E-E	1) Adjust R149 to obtain 0.4 Vp-p as signal level at TP10.
(2)	Power supply voltage	TP9 $\boxed{0}\boxed{1}$ ↓ Digital voltmeter TP8 : 5.00 ± 0.02 V DC	R151 $\boxed{0}\boxed{1}$	↑	S-VHS E-E	1) Adjust DC potential at TP9 to be 5.00 ± 0.02 V DC.
(3)	Output level	TP11 $\boxed{0}\boxed{1}$ 	R155 $\boxed{0}\boxed{1}$	↑	S-VHS E-E	1) Adjust R155 to obtain 0.3 Vp-p as signal level at TP11.
(4)	Limiter balance	TP13 $\boxed{0}\boxed{1}$ ↓ Digital voltmeter TP13 : 3.48 ± 0.01 V DC	R159 $\boxed{0}\boxed{1}$	No signal	S-VHS E-E	1) Adjust DC potential at TP13 to be 3.48 ± 0.01 V DC.

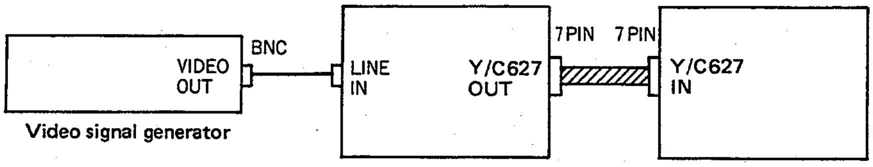
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
13	White & Dark clip					
(1)	VHS mode	TP3 $\boxed{0}$ $\boxed{1}$ 	R32 $\boxed{0}$ $\boxed{1}$ R44 $\boxed{0}$ $\boxed{1}$	Pulse & bar	VHS E-E	1) Adjust the oscilloscope's GAIN control so that signal level between the sync. tip and 100% white becomes of 4.0 scale divisions on the screen. 2) Adjust R44 to set the white clip for 3.6 scale divisions (190%), and R32 to set the dark clip for 2.0 scale divisions (50%).
(2)	S-VHS mode	TP5 $\boxed{0}$ $\boxed{1}$ 	R53 $\boxed{0}$ $\boxed{1}$ R65 $\boxed{0}$ $\boxed{1}$	Pulse & bar	S-VHS E-E	3) In the same manner as above, set the level between the sync. tip and 100% white for 4.0 scale divisions by the GAIN control. 4) Adjust the white clip for 4.4 scale divisions (210%) by R65, while the dark clip for 2.8 scale divisions (70%) by R53.

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
14	Carrier & deviation					
	 TP15 $\boxed{0}\boxed{4}$ TP1 $\boxed{0}\boxed{1}$ 10 : 1 probe (TP4) FM IN OUT EXT TRIG. IN IN Carrier checker (PGJ05008-2) Oscilloscope					1) Connect a carrier checker and an oscilloscope as shown on the left. It is recommended to use the oscilloscope in the DC coupling. 2) Set the carrier checker for the VHS mode and the DEVI/C. BAL switch to "DEVI".
(1)	VHS mode	TP1 $\boxed{0}\boxed{1}$	R36 $\boxed{0}\boxed{1}$ R37 $\boxed{0}\boxed{1}$	Colour bars	VHS E-E	3) Adjust R37 to align the sync. tip with the lower marker, while R36 to align the 100% white portion to the upper marker. 4) Repeat the adjustment of R37 and R36 alternately until they meet the specifications at the same time.
	 4.8 MHz marker ⊘ R36 3.8 MHz marker ⊘ R37 H-rate			TRIG: TP15 $\boxed{0}\boxed{4}$		
(2)	S-VHS mode	TP4 $\boxed{0}\boxed{1}$	R58 $\boxed{0}\boxed{1}$ R59 $\boxed{0}\boxed{1}$	Colour bars	S-VHS E-E	5) Connect the carrier checker to TP4. 6) Set the carrier checker switch to S-VHS and DEVI. 7) Adjust R59 to align the sync. tip with the lower marker, while R58 to align the 100% white portion to the upper marker. 8) Repeat the adjustment of R58 and R59 alternately until they meet the specifications at the same time.
	 7.0 MHz marker ⊘ R58 5.4 MHz marker ⊘ R59 H-rate			TRIG: TP15 $\boxed{0}\boxed{4}$		

3.5.2 REC COLOUR CIRCUIT


START
INPUT SIGNAL
LINE
Y/C443
Y/C627
No. 1 REC AFC
No. 2 BURST GATE PULSE POSITION & WIDTH
No. 3 REC APC
No. 4 REC +135° BURST DETECTOR
No. 5 PILOT BURST GENERATOR (1) FREQUENCY (2) POSITION & WIDTH (3) LEVEL & PHASE
No. 6 LINE IN COLOUR LEVEL
No. 7 REC Y/C DELAY (1) S-VHS MODE (2) VHS MODE (3) Y/C443 IN
No. 9 COLOUR LEVEL (1) S-VHS MODE (2) VHS MODE (3) Y/C443 IN
No. 8 'Y/C627 IN' REC Y/C DELAY (1) S-VHS MODE (2) VHS MODE
No. 10 'Y/C627 IN' COLOUR LEVEL (1) S-VHS MODE (2) VHS MODE
No. 11 S-VHS SIDE BAND COMPARATOR

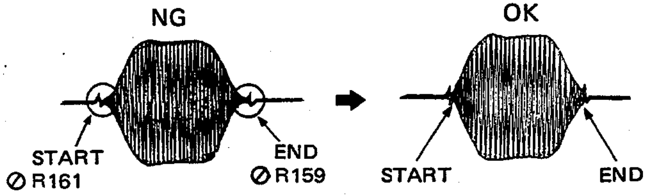
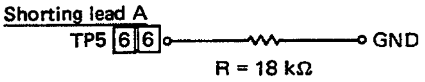
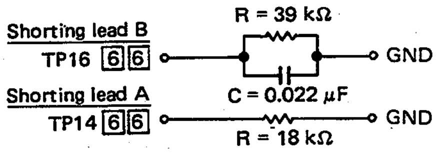
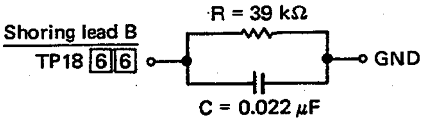
- Use the following connections for adjustment of Items 8 and 10.


VIDEO OUT
BNC
Video signal generator
LINE IN
Y/C627 OUT
7PIN
7PIN
Y/C627 IN

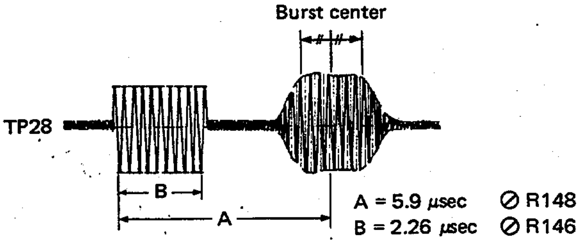
BR-S810E/610E/811E/611E

Confirm the following adjustments for the comparison set.
1) With colour bar input, the C627 output is 0.9 Vp-p (1 kΩ load).
2) Supply pulse and bar input and mix Y OUT and C627 OUT on the oscilloscope.
Confirm that bottom of 20T pulse is flat and symmetrical left to right.

Note: If a precisely adjusted set or a signal generator capable for supplying the specified signals is not available, the adjustments of Items 8 and 10 may be performed under Section 3.5.5 PB colour circuit. (page 3-58)

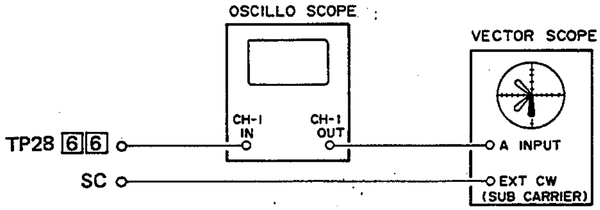
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
1	REC AFC	TP5 $\boxed{6}\boxed{6}$ ↓ Frequency counter TP5 : 625 kHz ± 2 kHz	R135 $\boxed{6}\boxed{6}$	No signal VIDEO INPUT SW : Y/C 627	E-E	1) Adjust R135 so that frequency of TP5's signal becomes 625 kHz ± 2 kHz.
2	Burst gate pulse position & width  NG OK START ⊘R161 END ⊘R159 START END	TP2 $\boxed{6}\boxed{6}$	R161 $\boxed{6}\boxed{6}$ R159 $\boxed{6}\boxed{6}$	Colour bars	VHS E-E	1) Adjust R161 so that TP2's waveform starts to burst around the foot of the waveform. 2) Adjust R159 so that the waveform's burst ends around the foot of the waveform.
3	REC APC	TP4 $\boxed{6}\boxed{6}$ ↓ Frequency counter TP4 : 4.435572 MHz ± 30 Hz	C74 $\boxed{6}\boxed{6}$	Colour bars	E-E	1) Use such a shorting lead A as shown below to make a shortcircuit between TP5 $\boxed{6}\boxed{6}$ and GND.  Shorting lead A TP5 6 6 GND R = 18 kΩ 2) Adjust C74 to obtain 4.435572 MHz ± 30 Hz as frequency of TP4's signal. 3) Remove the shorting lead A.
4	REC +135° burst detector	TP15 $\boxed{6}\boxed{6}$ ↓ Frequency counter TP15 : 4.433619 MHz ± 30 Hz	C152 $\boxed{6}\boxed{6}$	Colour bars	E-E	1) Shortcircuit TP16 $\boxed{6}\boxed{6}$ and GND with a shorting lead B (shown below), while shortcircuit TP14 $\boxed{6}\boxed{6}$ and GND with a shorting lead A as shown in the figure.  R = 39 kΩ Shorting lead B TP16 6 6 GND C = 0.022 μF Shorting lead A TP14 6 6 GND R = 18 kΩ 2) Adjust C152 so that frequency of TP15's signal becomes 4.433619 MHz ± 30 Hz. 3) Remove the shorting leads.
5	Pilot burst generator					
(1)	Frequency	TP20 $\boxed{6}\boxed{6}$ ↓ Frequency counter TP20 : 4.433619 MHz ± 30 Hz	C168 $\boxed{6}\boxed{6}$	Colour bars	E-E	1) Use the shorting lead B to make a shortcircuit between TP18 $\boxed{6}\boxed{6}$ and GND.  R = 39 kΩ Shoring lead B TP18 6 6 GND C = 0.022 μF 2) Adjust C168 so that frequency of TP20's signal becomes 4.433619 MHz ± 30 Hz. 3) Remove the shorting lead B.

<table>
<tr><th>No.</th><th>Item</th><th>Check Point</th><th>Adjustment Parts</th><th>Signal</th><th>Mode</th><th>Description</th></tr>
<tr><td rowspan="2">(2)</td><td>Position & width</td><td>TP28 6 6</td><td>R148 6 6
R146 6 6</td><td>Colour bars</td><td rowspan="2">S-VHS
E-E</td><td rowspan="2">1) Adjust R148 so that the burst center position A of TP28's signal is observed at 5.9 µsec point as shown in the figure.
2) Adjust R146 so that the width B of pilot burst is for 2.26 µsec as shown in the figure.</td></tr>
<tr><td colspan="4">



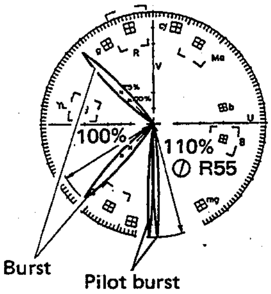
Burst center
TP28
B
A
A = 5.9 µsec ⊘ R148
B = 2.26 µsec ⊘ R146

</td></tr>
<tr><td rowspan="7">(3)</td><td rowspan="7">Level & phase</td><td colspan="4">



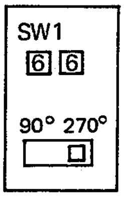
OSCILLO SCOPE
VECTOR SCOPE
CH-1 IN
CH-1 OUT
TP28 6 6
SC
A INPUT
EXT CW (SUB CARRIER)

</td><td>1) Connect an oscilloscope's CH-1 IN terminal to TP28 for amplification, while connect its CH-1 OUT terminal to a vectorscope's INPUT terminal.
2) Connect the vectorscope's EXT. CW terminal and a test signal generator for SC (Sub-carrier) supply.</td></tr>
<tr><td>TP28 6 6</td><td>R55 6 6</td><td>Colour bars</td><td>S-VHS
E-E</td><td rowspan="2">3) Adjust the vectorscope's GAIN VR and PHASE VR to set the burst signal level and phase as shown in the left figure.
4) At that time, adjust R55 so that the pilot burst level is 110% with respect to the burst level.</td></tr>
<tr><td colspan="3">



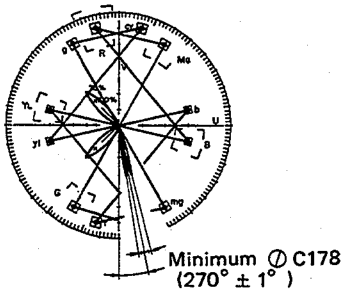
100%
110%
⊘ R55
Burst
Pilot burst

</td><td>



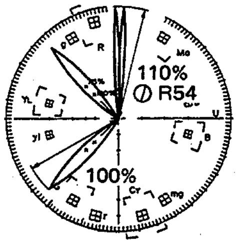
SW1
6 6
90° 270°

</td></tr>
<tr><td></td><td>C178 6 6</td><td>↑</td><td>↑</td><td rowspan="2">5) Secondly, adjust the vectorscope's GAIN VR and PHASE VR to set the burst signal to be in the normal position.
6) Adjust C178 so that the pilot burst phase becomes 270 ± 1°.
7) Confirm steps 3) and 4).</td></tr>
<tr><td colspan="4">

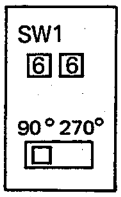


Minimum ⊘ C178
(270° ± 1°)

</td></tr>
<tr><td></td><td>R54 6 6</td><td>↑</td><td>↑</td><td rowspan="2">8) Perform the same adjustment as the steps 3) and 4) by use of R54.
9) After the adjustment performed in the same manner as the step 5), confirm the pilot burst phase of 90 ± 10°.
10) Return SW1 6 6 to "270°" side.</td></tr>
<tr><td colspan="3">

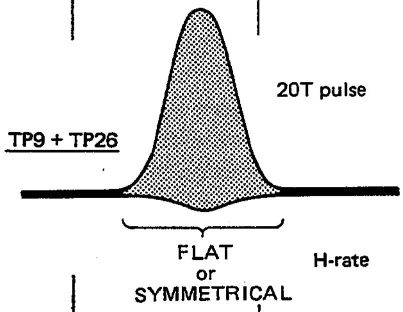
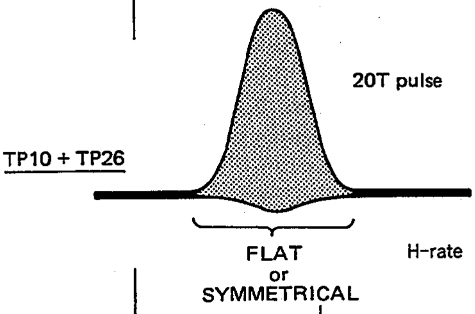


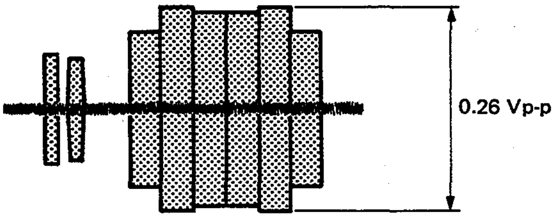
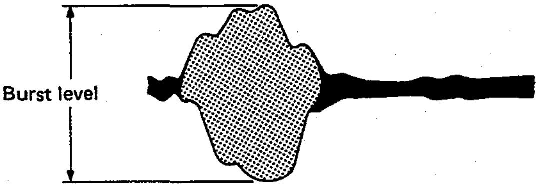
</td><td>



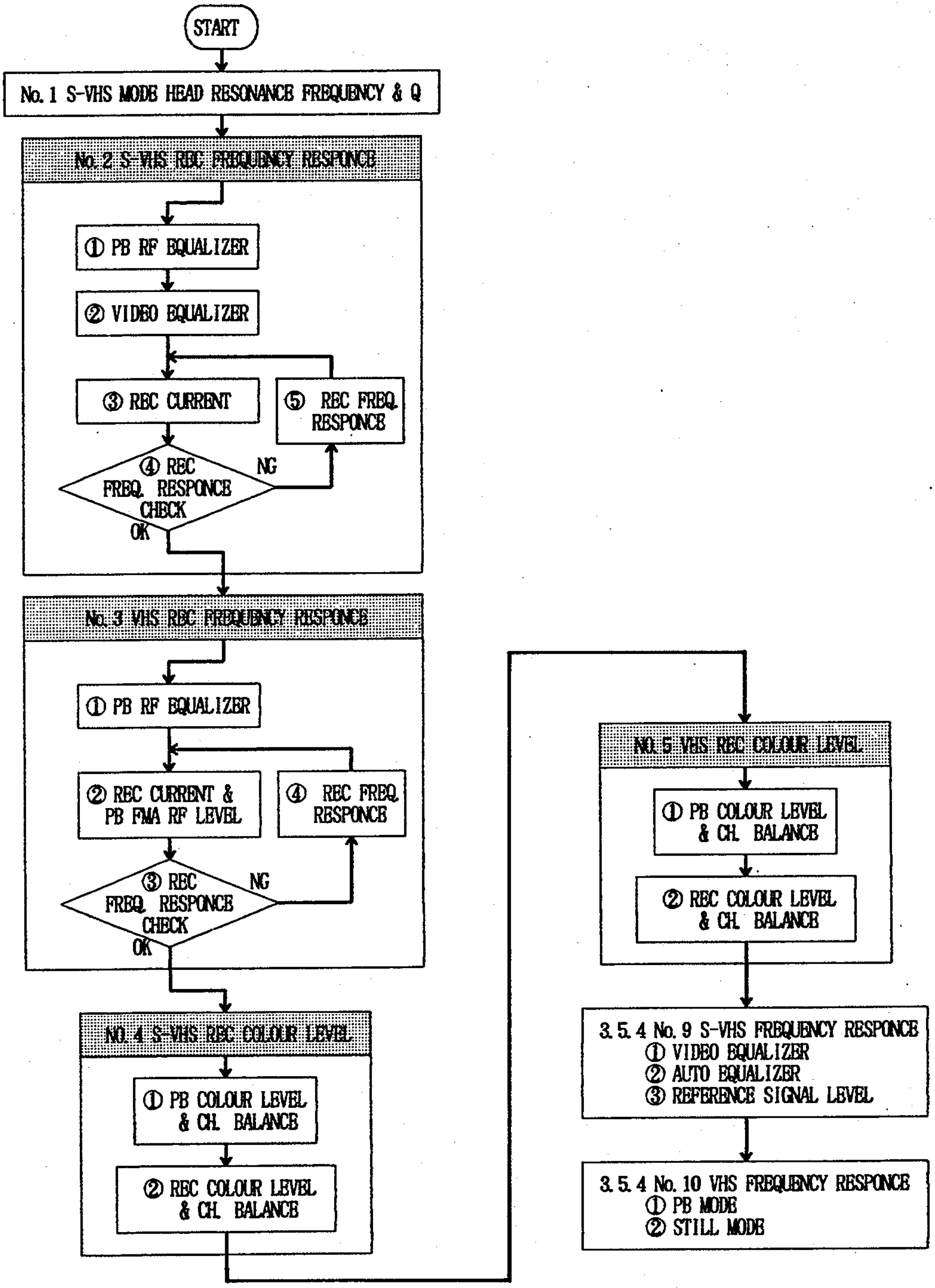
SW1
6 6
90° 270°

</td></tr>
</table>

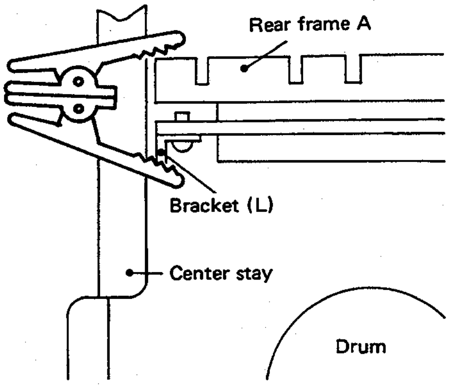
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
6	LINE IN colour level	TP1 $\boxed{6}\boxed{6}$	R88 $\boxed{6}\boxed{6}$	Colour bars	E-E	1) Adjust R88 so that the colour level is 0.4 Vp-p.
7	REC Y/C delay					
(1)	S-VHS mode 	TP10 $\boxed{0}\boxed{1}$ TP26 $\boxed{6}\boxed{6}$	R91 $\boxed{6}\boxed{6}$	Pulse & bar	S-VHS E-E	1) On the oscilloscope, set for "ADD" mode mix pulses from TP10 and TP26. 2) On the screen, make the base of the 20T pulse flat or symmetrical by R91.
(2)	VHS mode	TP8 $\boxed{0}\boxed{1}$ TP26 $\boxed{6}\boxed{6}$	R93 $\boxed{6}\boxed{6}$	↑	VHS E-E	3) In the same manner as the above step 1), mix pulses of TP8 and TP26. 4) Adjust R93 to obtain the same result in the VHS mode as the step 2) above.
(3)	Y/C443 IN	TP10 $\boxed{0}\boxed{1}$ TP26 $\boxed{6}\boxed{6}$	R85 $\boxed{6}\boxed{6}$	Y/C443 Pulse & bar VIDEO INPUT SW: Y/C443	S-VHS E-E	5) With input of Y/C443 pulse & bar, adjust R85 to obtain the same result as the step 2) above.
8	Y/C627 REC Y/C delay					
(1)	S-VHS mode 	TP10 $\boxed{0}\boxed{1}$ TP26 $\boxed{6}\boxed{6}$	R8 $\boxed{6}\boxed{6}$	Y/C627 Pulse & bar VIDEO INPUT SW: Y/C627	S-VHS E-E	1) On the oscilloscope set for "ADD" mode, mix TP10 signal and TP26 signal. 2) Adjust R8 so that the base of the 20T pulse becomes flat or symmetrical.
(2)	VHS mode	TP8 $\boxed{0}\boxed{1}$ TP26 $\boxed{6}\boxed{6}$	R10 $\boxed{6}\boxed{6}$	Y/C627 Pulse & bar VIDEO INPUT SW: Y/C627	VHS E-E	3) In the same manner as the step 1) above, mix TP8 and TP26 pulses on the oscilloscope. 4) Adjust R10 to obtain the same result as the step 2) above.

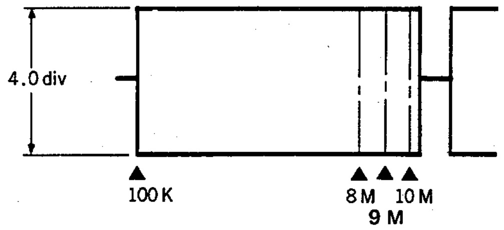
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
9	Colour level					
(1)	S-VHS mode	TP26 6 6	R92 6 6	Colour bars	S-VHS E-E	1) Adjust R92 to obtain 0.26 Vp-p at TP26.
						
(2)	VHS mode	↑	R94 6 6	↑	VHS E-E	2) Perform the same adjustment as the step 1) by R94.
(3)	Y/C443 IN	TP1 6 6	R86 6 6	Y/C443 colour bars VIDEO INPUT SW: Y/C443	S-VHS E-E	3) With input of Y/C443 colour bars signal, adjust R86 to obtain 0.4 Vp-p at TP1.
10	Y/C627 IN colour level					
(1)	S-VHS mode	TP26 6 6	R9 6 6	Y/C627 colour bars VIDEO INPUT SW: Y/C627	S-VHS E-E	1) Adjust R9 to obtain 0.26 Vp-p at TP26.
(2)	VHS mode	↑	R11 6 6	↑ VIDEO INPUT SW: Y/C627	VHS E-E	2) Adjust R11 to obtain 0.26 Vp-p at TP26.
11	S-VHS Side band comparator	L9 6 7 (Right lead)	R17 6 7	3.9 MHz sine wave	E-E VHS ↓ S-VHS	**Note 1)** R17 has 2 setting points. Be sure to first turn it fully clockwise, then turn it counterclockwise to the first setting point. 1) Set the REC MODE switch to VHS. Observe the burst level at the right lead of L9 and adjust the oscilloscope to set this to 5 scale divisions. 2) Set the REC MODE switch to S-VHS and adjust R17 so that the burst level is 4 scale divisions.
						

3.5.3 RF CIRCUIT

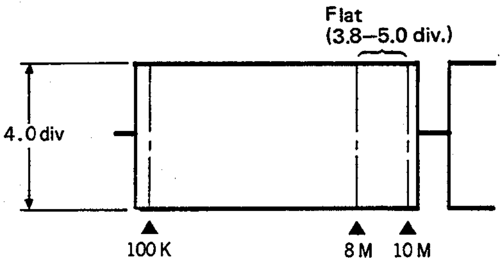

START
No. 1 S-VHS MODE HEAD RESONANCE FREQUENCY & Q
No. 2 S-VHS REC FREQUENCY RESPONCE
① PB RF EQUALIZER
② VIDEO EQUALIZER
③ REC CURRENT
⑤ REC FREQ. RESPONCE
④ REC FREQ. RESPONCE CHECK
NG
OK
No. 3 VHS REC FREQUENCY RESPONCE
① PB RF EQUALIZER
② REC CURRENT & PB FMA RF LEVEL
④ REC FREQ. RESPONCE
③ REC FREQ. RESPONCE CHECK
NG
OK
NO. 4 S-VHS REC COLOUR LEVEL
① PB COLOUR LEVEL & CH. BALANCE
② REC COLOUR LEVEL & CH. BALANCE
NO. 5 VHS REC COLOUR LEVEL
① PB COLOUR LEVEL & CH. BALANCE
② REC COLOUR LEVEL & CH. BALANCE
3.5.4 No. 9 S-VHS FREQUENCY RESPONCE
① VIDEO EQUALIZER
② AUTO EQUALIZER
③ REFERENCE SIGNAL LEVEL
3.5.4 No. 10 VHS FREQUENCY RESPONCE
① PB MODE
② STILL MODE

- VIDEO PRE/REC AMP 05 board
  Prior to electrical adjustment of this board, connect the extension board PGJ05007-2 in the following order.
  1) Remove a screw and take off the cleaner assembly.
  2) After removing two screws fixing the board bracket, lift it and connect the extension board.
  3) Take off the shield cover.
  4) Catch the rear frame A and left board bracket by a big alligator clip for shortcircuit between them (see figure).


Rear frame A
Bracket (L)
Center stay
Drum

<table>
<tr><th>No.</th><th>Item</th><th>Check Point</th><th>Adjustment Parts</th><th>Signal</th><th>Mode</th><th>Description</th></tr>
<tr><td>1</td><td colspan="6">S-VHS mode Head resonance frequency & Q</td></tr>
<tr><td></td><td></td><td colspan="5">**Preparation and Precaution**
(1) Proceed to adjust the following, load a blank cassette tape (on which no signal recorded) and play it back (for Normal Head adjustment) or do it in the Still mode (for Search Head adjustment).
(2) Apply sweep signal whose sweep width is 100 kHz to 10 MHz without sync., and its amplitude should be set for the level (approx. 10 mVp-p) not to distort its waveform at a test point. For test pins to input the sweep signal and GND terminals, refer to the "Signal" column for each item.
(3) To synchronize the input sweep signal and drum, synchronize this unit externally with the composite sync output of the sweep generator. Set to the TBC mode for synchronizing in Still. For these reasons, supply composite sync to SYNC IN. Set switches as follows.
SYNC : EXT (PB)
TBC : ON
If the sweep generator does not have a composite sync output, adjust as described on page 3-34.
(4) Regarding TP11 [1][0] (D. FF), since its pulsing characteristic is different between at "H" level and "L" level, perform adjustment of the CH-1 head with sweep waveform when D. FF is "L", while the CH-2 head with that at "H" D. FF.
(5) Prior to this adjustment, refer to the 'Precautions of the VIDEO PRE/REC AMP board adjustment' (on page 3-32).
(6) Adjust without installing extension board to the REC Y, FM REC/PB board.</td></tr>
<tr><td rowspan="3">(1)</td><td rowspan="3">Normal
CH1 head</td><td>TP8 [0][5]
GND5 [0][5]</td><td>R41 [0][5]
C44 [0][5]</td><td>Sweep
↓
TP3 [0][5]
GND3 [0][5]</td><td>PB</td><td rowspan="3">1) Shortcircuit TP11 [0][5] and TP3 [1][7] with such a shorting lead as shown below.
R = 1 kΩ
TP11 [0][5] o——WW——o TP3 [1][7]
(+5 V DC)
(This wiring shifts the mode to the S-VHS.)
2) Connect the oscilloscope to TP8 and GND5.
3) Set the 100 kHz level for 4.0 scale divisions by turning the GAIN control of the scope.
At this time, adjust C44 so that the 8 MHz level is 4.0 scale divisions.
4) Next, adjust R41 so that the 10 MHz level is 4.0 scale divisions.
5) After adjustment, check to see that the levels of 8 MHz, 9 MHz and 10 MHz are within regulation values.</td></tr>
<tr><td colspan="4">

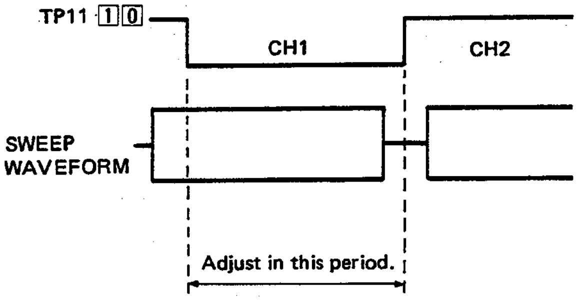
<table>
<tr><th>100 kHz</th><th>8 MHz</th><th>9 MHz</th><th>10 MHz</th></tr>
<tr><td>4.0 (ref.)</td><td>4.0–4.4</td><td>4.0–4.6</td><td>3.8–4.4</td></tr>
</table></td></tr>
<tr><td colspan="2"></td><td colspan="2">TRIG: TP11 [1][0]
⊖ slope</td></tr>
<tr><td rowspan="2">(2)</td><td rowspan="2">Normal
CH2 head</td><td rowspan="2">↑</td><td rowspan="2">R46 [0][5]
C60 [0][5]</td><td>Sweep
↓
TP4 [0][5]
GND3 [0][5]</td><td>↑</td><td rowspan="2">6) Perform the same adjustment as the steps 1), 2), 3), 4) and 5) by R46 and C60.</td></tr>
<tr><td colspan="2">TRIG: TP11 [1][0]
⊕ slope</td></tr>
</table>

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
(3)	Search CH1 head	TP9 $\boxed{0}\boxed{5}$ GND6 $\boxed{0}\boxed{5}$	R63 $\boxed{0}\boxed{5}$	Sweep ↓ TP5 $\boxed{0}\boxed{5}$ GND4 $\boxed{0}\boxed{5}$  TRIG: TP11 $\boxed{1}\boxed{0}$ ⊖ slope	STILL	7) Connect the oscilloscope to TP9 and GND6. 8) Set the 100 kHz level for 4.0 scale divisions by turning the GAIN control of the scope. 9) Adjust R63 so that the 10 MHz level is equal to the 8 MHz level. 10) Confirm that the level between 8 MHz and 100 MHz is 3.8–5.0 scale divisions.
(4)	Search CH2 head	↑	R68 $\boxed{0}\boxed{5}$	Sweep ↓ TP6 $\boxed{0}\boxed{5}$ GND4 $\boxed{0}\boxed{5}$ TRIG: TP11 $\boxed{1}\boxed{0}$ ⊖ slope	STILL	11) Perform the same adjustment as the steps 8), 9) and 10) by R68.

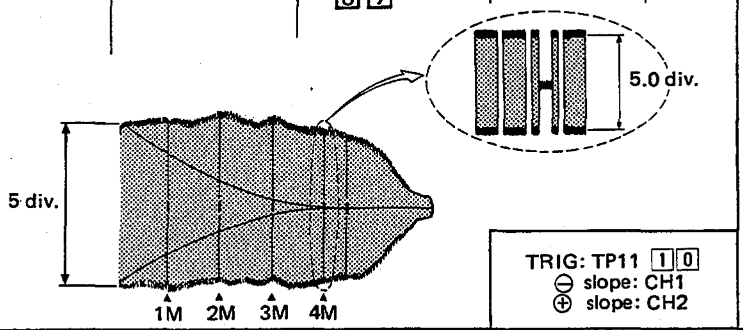
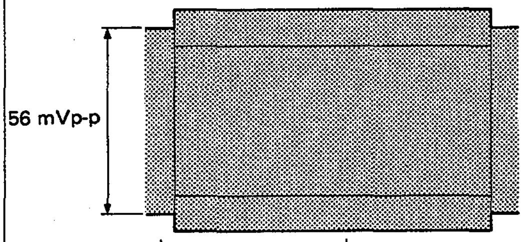
- **If composite sync. signal is not available from the sweep signal generator used, perform adjustment without external sync signal input in the following conditions.**

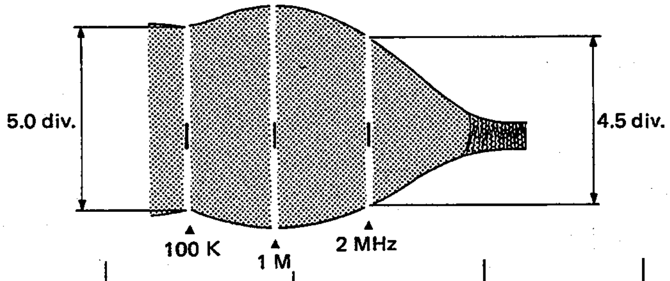
(1) Set the switches as follows:
SYNC SW : VIDEO
TBC SW : OFF

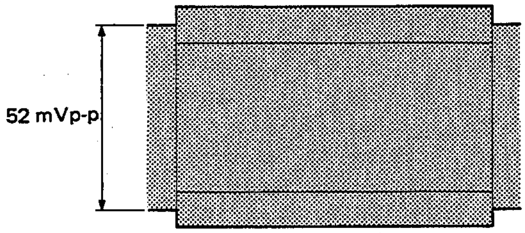
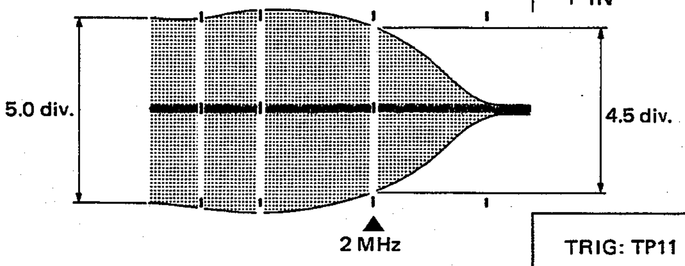
(2) Other methods are the same as those with external composite sync. signal except on the following.

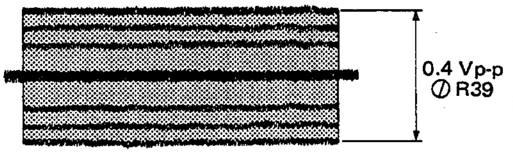
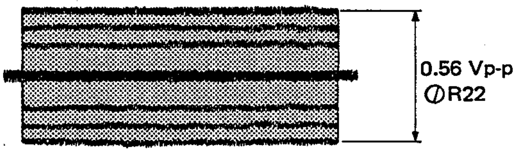


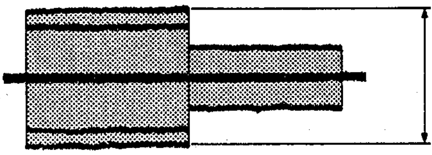
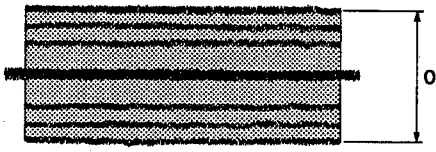
At this adjustment, connect the oscilloscope's probes to a specified test point and TP11 $\boxed{1}\boxed{0}$ (D.FF) for external triggering in order to observe waveforms in dual trace mode where sweep signal of the respective test point flows slowly on the screen.
For adjustment of the CH-1 head use sweep waveform in the same period as D. FF is of "L" level, while for the CH-2 head use that in the same period as D. FF is of "H" level.

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
2	S-VHS REC frequency characteristic					
	Note: If REC frequency characteristic for S-VHS mode is adjusted, that for VHS mode is changed, too. Therefore, the following steps for VHS mode must take place after this adjustment.					
(1)	PB RF equalizer 	TP2 $\boxed{6}\boxed{5}$	CH1: R210 CH2: R208 $\boxed{6}\boxed{7}$	MBVE-3H TRIG: TP11 $\boxed{1}\boxed{0}$ ⊖ slope: CH1 ⊕ slope: CH2	PB	1) Adjust the oscilloscope's GAIN control to set the 100 kHz signal level to be of 5 scale divisions on the screen. At the same time, adjust the 4.0 MHz signal level for 5.0 scale divisions (0 dB). **Note:** For the alignment tape MBVE-3H, contact JVC.
(2)	Video EQ	Y/C443 OUT Y OUT (75 Ω terminated)	R26 $\boxed{6}\boxed{5}$	↑ TRIG: TP11 $\boxed{1}\boxed{0}$ ⊖ slope: CH1 ⊕ slope: CH2	↑	2) Trigger the oscilloscope by minus (–) slope. 3) Adjust the oscilloscope's GAIN control to set the 100 kHz signal level to be of 5 scale divisions on the screen. At this time, adjust the 4.0 MHz signal level for 4.5 scale divisions by R26. 4) Trigger the oscilloscope by plus (+) slope and confirm that the 4 MHz level is 4.5 scale divisions. If it is out of the specifications, adjust R208 $\boxed{6}\boxed{7}$ to obtain the correct level. **Note:** For the alignment tape MBVE-3H, contact JVC.
(3)	REC current 	TP3 $\boxed{0}\boxed{5}$ GND3 $\boxed{0}\boxed{5}$	CH1: R32 $\boxed{6}\boxed{7}$	Colour bars TRIG: TP11 $\boxed{1}\boxed{0}$	S-VHS REC	5) Connect the oscilloscope's probe to TP3 and use GND3 for grounding. 6) For CH1, adjust TP3's pedestal FM level for 56 mVp-p by R32.
		TP4 $\boxed{0}\boxed{5}$ GND3 $\boxed{0}\boxed{5}$	CH2: R36 $\boxed{6}\boxed{7}$	↑ TRIG: TP11 $\boxed{1}\boxed{0}$	↑	7) For CH2, adjust TP4's pedestal FM level for 56 mVp-p by R36.

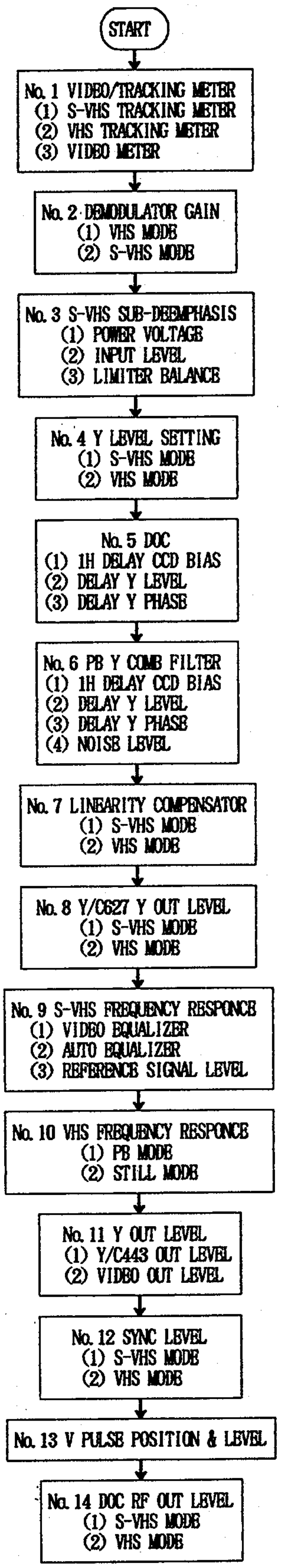
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
(4)	REC freq. response check	Y/C443 OUT Y OUT (75 Ω terminated)	–	Video sweep (B/W) ↓ Y/C443 Y IN SW2 [6][7]: AUTO MANU TRIG: TP11 [1][0] ⊖ slope: CH1 ⊕ slope: CH2	S-VHS REC ↓ PB	8) Set SW2 [6][7] to "MANU" position. 9) Supply a video sweep signal via the 7-pin cable (PGJ05028) to the Y input of the Y/C443 IN connector. 10) Set the VIDEO INPUT switch to Y/C443. 11) Record the video sweep signal and play it back. 12) Set the 100 kHz level to 5.0 scale divisions. 13) Confirm that the 4.0 MHz levels of both channels are 4.0 scale divisions (–2.0 dB).
(5)	REC freq. response	↑	CH1: R10 CH2: R23 [0][5]	↑	↑	● If the above value cannot be obtained: a) Roughly turn R23 or R10. CH1: R10 ↺: decreases the 4.0 MHz level. R10 ↻: increases the 4.0 MHz level. CH2: R23 ↻: decreases the 4.0 MHz level. R23 ↺: increases the 4.0 MHz level. b) Repeat the adjustments of the item (3) for REC current. c) Repeat the steps 11), 12) and 13) of this item until they meet the specifications.
3	VHS REC freq. response					
(1)	PB RF equalizer	Y/C443 OUT Y OUT (75 Ω terminated)  	CH1 : R43 CH2 : R44 [0][5]	MH-8 TRIG: TP11 [1][0] ⊖ slope: CH1 ⊕ slope: CH2	PB	1) Adjust the 2.0 MHz signal level for 4.5 scale divisions referring to the 5.0 scale divisions for the 100 kHz signal. **Note:** When the 100 kHz level of 5.0 scale divisions cannot be obtained by the above manner, use R84 [6][5] to raise the level up. (refer to page 3-47)

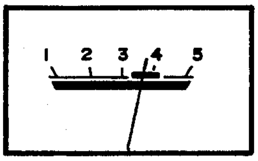
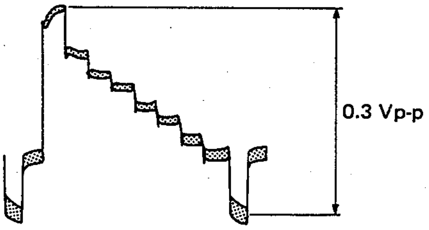
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
(2)	REC current & PB FMA RF level 	TP3 05 GND3 05	CH1: R33 67	Colour bars TRIG: TP11 10	VHS REC	2) Connect the oscilloscope's probe to TP3 and ground the other probe to GND3. 3) For CH1 adjust TP3's pedestal FM level for 52 mVp-p by R33.
		TP4 05 GND3 05	CH2: R35 67	Colour bars TRIG: TP11 10	VHS REC	4) For CH2 adjust TP4's pedestal FM level for 52 mVp-p by R35. **Note:** Repeat the steps 3) and 4) alternately until they meet the specifications at the same time.
		A-FF terminal (Front panel)	R80 09	Colour bars ↓ VIDEO IN No signal (Hi-Fi IN) Hi-Fi REC SW : ON TRIG: TP11 10	VHS REC ↓ PB	5) Set the Hi-Fi REC switch (on the front panel) to "ON" position. 6) Record the colour bars signal and play it back. 7) Adjust R80 to obtain 170 mVp-p as the FM level of a channel whose PB signal level is lower than that of the other channel. • When it does not go to 170 mVp-p, change REC current level to 48 mVp-p (refer to steps 2), 3) and 4) of this item) and then repeat steps 5), 6) and 7). • When it does not go to 170 mVp-p even when REC current level is adjusted to 48 mVp-p, change REC current level to 44 mVp-p and then repeat steps 5), 6) and 7). 8) Return the Hi-Fi REC switch to "OFF" position.
(3)	REC freq. response check 	Y/C443 OUT Y OUT (75 Ω terminated)	–	Video sweep (B/W) ↓ Y/C443 IN Y IN TRIG: TP11 10 ⊖ slope: CH1 ⊕ slope: CH2	VHS REC ↓ PB	9) Supply the video sweep signal via the 7-pin cable (PGJ05028) to the Y input of the Y/C443 IN connector. 10) Set the VIDEO INPUT switch to Y/C443. 11) Record the video sweep signal and play it back. 12) Set the 100 kHz signal level for 5.0 scale divisions, and referring to it, confirm the 2.0 MHz signal level for 4.5 scale divisions for both channels.

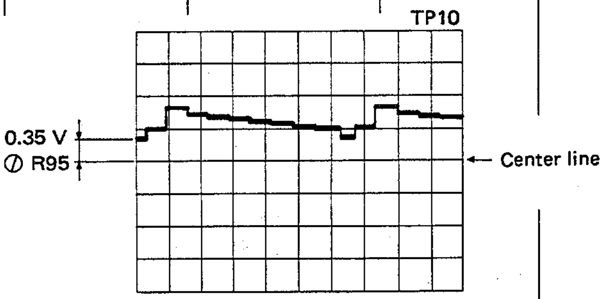
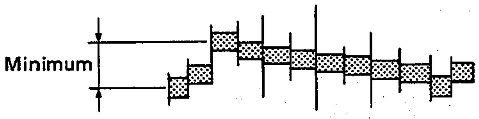
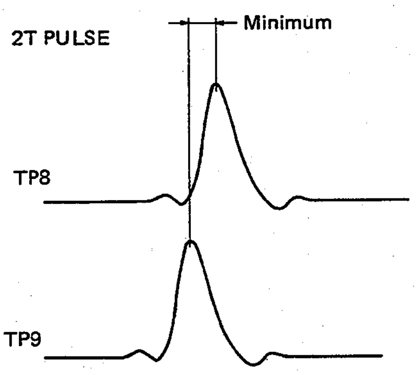
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
(4)	REC freq. response	Y/C443 OUT Y OUT (75 Ω terminated)	CH1 : R3 CH2 : R16 [0][5]	Video sweep (B/W) ↓ Y/C443 IN Y IN	VHS REC ↓ PB	• If a satisfactory result cannot be obtained: a) Roughly turn R3 or R16. CH1: R3 ↻ : decreases the 2.0 MHz level. R3 ↺ : increases the 2.0 MHz level. CH2: R16 ↺ : decreases the 2.0 MHz level. R16 ↻ : increases the 2.0 MHz level. b) Repeat the adjustments of the item (2) for REC current. c) Perform the adjustments of the steps 11) and 12) of this item repeatedly until they meet the specifications.
4	S-VHS REC colour level					
(1)	PB colour level & CH balance	TP25 [6][6] 	R88 [6][7] R39 [6][6]	MHVE-2H TRIG: TP11 [1][0] ⊖ slope: CH1 ⊕ slope: CH2	PB	1) With the alignment tape MHVE-2H being played back, adjust the TRACKING VR for the best tracking position. 2) Adjust R88 to equalize CH1 and CH2 colour levels. 3) Adjust R39 to set the colour level to 0.4 Vp-p.
		↑	R86 [6][7]	↑	STILL	4) Adjust R86 to equalize CH1 and CH2 colour levels. **Note:** Set the colour levels according to an average result of 2–3 measurements at different STILL points.
(2)	REC colour level & CH balance	↑ 	CH1: R22 CH2: R30 [6][7]	Colour bars TRIG: TP11 [1][0] ⊖ slope: CH1 ⊕ slope: CH2	S-VHS REC ↓ PB	5) Record the colour bars signal and play it back. 6) Confirm that the CH1 colour level is 0.56 Vp-p. • If a satisfactory result cannot be obtained: a) Roughly turn R22. R22 ↻ : increases the colour level. b) Repeat the adjustments of the steps 5) and 6) of this item. 7) Confirm that the CH2 colour level is 0.56 Vp-p. • If a satisfactory result cannot be obtained: a) Roughly turn R30. R30↻: increases the CH2 colour level. b) Repeat the adjustments of steps 5) and 7) of this item.

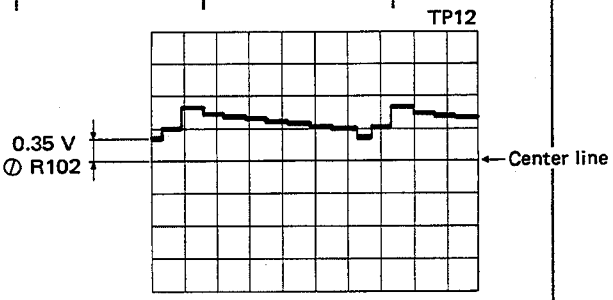
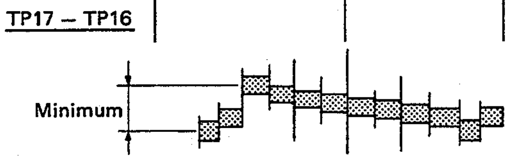
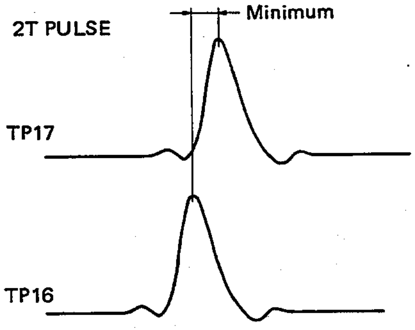
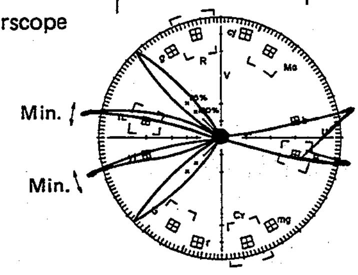
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
5	VHS REC colour level					
(1)	PB colour level & CH balance	TP25 6 6  	R87 6 7 R40 6 6	MHVE-2 TRIG: TP11 1 0	PB	1) Adjust R87 to equalize CH1 and CH2 colour levels. 2) Adjust R40 to set the colour level to 0.4 Vp-p.
		↑	R85 6 7	↑	STILL	3) Adjust R85 to equalize CH1 and CH2 colour levels. **Note:** Set the colour levels according to an average result of 2–3 measurements at different STILL points.
(2)	REC colour level & CH balance	↑  	CH1: R23 CH2: R28 6 7	Colour bars TRIG: TP11 1 0 ⊖ slope: CH1 ⊕ slope: CH2	VHS REC ↓ PB	4) Record the colour bars signal and play it back. 5) Confirm that the CH1 colour level is 0.4 Vp-p. • If a satisfactory result cannot be obtained: a) Roughly turn R23. R23 ↻: increases the colour level. b) Repeat the adjustments of steps 4) and 5) of this item. 6) Confirm that the CH2 colour level is 0.4 Vp-p. • If a satisfactory result cannot be obtained: a) Roughly turn R28. R28 ↻: increases the CH2 colour level. b) Repeat the adjustments of steps 4) and 6) of this item.

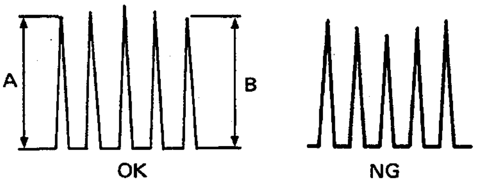
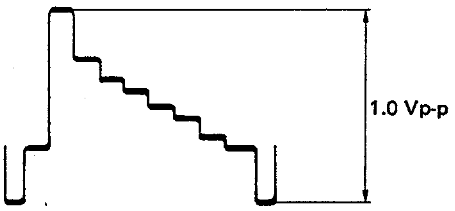
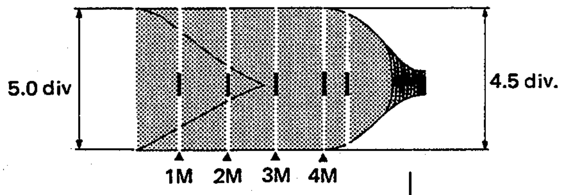
3.5.4 PB Y CIRCUIT

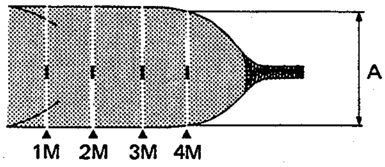
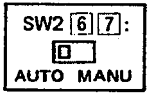
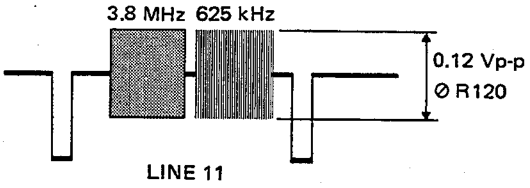
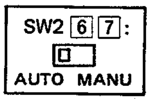

START
No. 1 VIDEO/TRACKING METER
(1) S-VHS TRACKING METER
(2) VHS TRACKING METER
(3) VIDEO METER
No. 2 DEMODULATOR GAIN
(1) VHS MODE
(2) S-VHS MODE
No. 3 S-VHS SUB-DEEMPHASIS
(1) POWER VOLTAGE
(2) INPUT LEVEL
(3) LIMITER BALANCE
No. 4 Y LEVEL SETTING
(1) S-VHS MODE
(2) VHS MODE
No. 5 DOC
(1) 1H DELAY CCD BIAS
(2) DELAY Y LEVEL
(3) DELAY Y PHASE
No. 6 PB Y COMB FILTER
(1) 1H DELAY CCD BIAS
(2) DELAY Y LEVEL
(3) DELAY Y PHASE
(4) NOISE LEVEL
No. 7 LINEARITY COMPENSATOR
(1) S-VHS MODE
(2) VHS MODE
No. 8 Y/C627 Y OUT LEVEL
(1) S-VHS MODE
(2) VHS MODE
No. 9 S-VHS FREQUENCY RESPONCE
(1) VIDEO EQUALIZER
(2) AUTO EQUALIZER
(3) REFERENCE SIGNAL LEVEL
No. 10 VHS FREQUENCY RESPONCE
(1) PB MODE
(2) STILL MODE
No. 11 Y OUT LEVEL
(1) Y/C443 OUT LEVEL
(2) VIDEO OUT LEVEL
No. 12 SYNC LEVEL
(1) S-VHS MODE
(2) VHS MODE
No. 13 V PULSE POSITION & LEVEL
No. 14 DOC RF OUT LEVEL
(1) S-VHS MODE
(2) VHS MODE

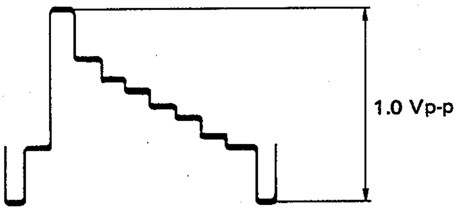
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
1	VIDEO/TRACKING meter					
(1)	S-VHS Tracking meter	VIDEO & TRACKING meter	R120 [0][1]  	Colour bars	S-VHS REC ↓ PB	1) Record the colour bars signal and play it back. 2) Set the TRACKING control to its center detent position. 3) Adjust the TRACKING meter so that it reads just 3.5 as seen from the front.
(2)	VHS Tracking meter check	↑	R118 [0][1]	↑	VHS REC ↓ PB	4) Record the color bars signal and play it back. 5) Set the TRACKING VR to the center detent position. 6) Adjust the TRACKING meter so that it reads 3.5 as seen from the front.
(3)	Video meter	↑	R119 [0][1]	↑	E-E	7) Adjust the VIDEO meter so that it points just the center of the green zone as viewed from the front.
2	Demodulator gain					
(1)	VHS mode	TP1 [0][2]	R3 [0][2]	Colour bars	VHS E-E	1) Adjust R3 to obtain 0.3 Vp-p at TP1.
(2)	S-VHS mode	TP2 [0][2]  	R41 [0][2]	↑	S-VHS E-E	2) Adjust R41 to obtain 0.3 Vp-p at TP2.
3	S-VHS Sub-deemphasis					
(1)	Power voltage	TP3 [6][5] ↓ Digital voltmeter	R34 [6][5] TP3 : 5.00 ± 0.02 V DC	Colour bars	S-VHS E-E	1) Adjust R34 to obtain 5.00 ± 0.02 V DC at TP3.
(2)	Input level	TP6 [6][5]	R48 [6][5]	↑	S-VHS E-E	2) Adjust R48 to obtain 0.4 Vp-p at TP6.
(3)	Limiter balance	TP22 [6][5] ↓ Digital voltmeter	R37 [6][5] TP22 : 3.40 ± 0.01 V DC	No signal	S-VHS E-E	3) Adjust R37 to obtain 3.40 ± 0.01 V DC at TP22.

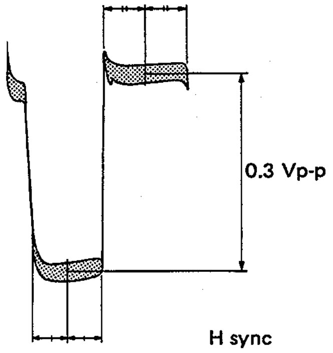
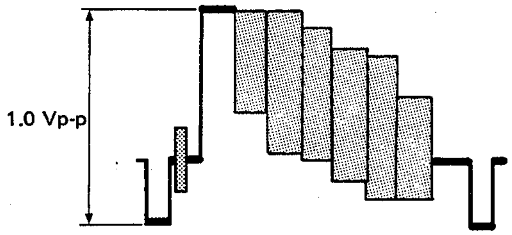
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
4	Y level estting					
(1)	S-VHS mode	TP1 $\boxed{6}\boxed{5}$	R40 $\boxed{6}\boxed{5}$	Colour bars	S-VHS E-E	1) Leave R17 $\boxed{6}\boxed{5}$ as it is turned fully counterclockwise. 2) Adjust R40 to obtain 1.0 Vp-p as Y level at TP1. **Note:** R17 is subject to adjust in the later item No. 12.
(2)	VHS mode	↑	R84 $\boxed{6}\boxed{5}$	↑	VHS E-E	3) Leave R62 $\boxed{6}\boxed{5}$ as it is turned fully counterclockwise. 4) Adjust R84 to obtain 1.0 Vp-p.
5	DOC					
(1)	1H delay CCD bias	TP10 $\boxed{6}\boxed{5}$ TP14 $\boxed{6}\boxed{5}$ TP11 $\boxed{6}\boxed{5}$ 	R95 $\boxed{6}\boxed{5}$ R96 $\boxed{6}\boxed{5}$	Colour bars	S-VHS E-E	1) Turn R95 fully counterclockwise. 2) Adjust R96 to obtain 2.7 V DC as the sync. tip level of DC potential at TP14. 3) Set the oscilloscope for 500 mV/div. in DC coupling and connect the probe to TP11. 4) By moving the oscilloscope's " ↕ " POSITION control, set DC voltage at TP11 on the center line of the oscilloscope screen. 5) Change connection of the oscilloscope to TP10 from TP11, and adjust R95 so that the DC potential of TP10's sync. tip is 0.35 V DC higher than the center line (TP11's level) of the screen.
(2)	Delay Y level	TP8 $\boxed{6}\boxed{5}$ TP9 $\boxed{6}\boxed{5}$ TP8 – TP9 	R110 $\boxed{6}\boxed{5}$	Colour bars	S-VHS E-E	6) Connect CH-1 probe of the dual-trace oscilloscope to TP8 while CH-2 probe to TP9 (INV). 7) Mix the signals. Set CH1 and CH2 ranges to be equal. 8) Adjust R110 for minimum Y signal.
(3)	Delay Y phase	↑ 	R117 $\boxed{6}\boxed{5}$	Pulse & bar	↑	9) Adjust R117 so that the phase of TP8's waveform coincides with that of TP9's.

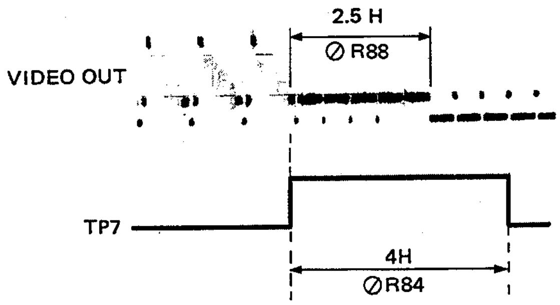
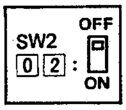
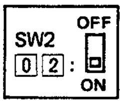
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
6	PB Y comb filter					
(1)	1H delay CCD bias	TP12 6 5 TP15 6 5 TP13 6 5 	R103 6 5 R102 6 5	Colour bars	S-VHS E-E	1) Turn R102 fully counterclockwise. 2) Adjust R103 so that DC potential of sync. tip of TP15's waveform becomes 2.7 V DC. 3) Set the oscilloscope for 500 mV/div. in DC coupling, and connect its probe to TP13. 4) Adjust the oscilloscope's " ↕ " POSITION control to position the DC potential of TP13 signal on the center line of the screen. 5) Change connection of the oscilloscope probe to TP12 from TP13, and adjust R102 so that the DC potential of TP12's sync. tip is 0.35 V DC higher than the center line (TP13's potential) on the screen.
(2)	Delay Y level	TP17 6 5 TP16 6 5 	R124 6 5	↑	↑	6) Connect CH1 probe of the dual-trace oscilloscope to TP17 while CH2 probe to TP16 (INV). 7) Mix the signals. Set CH1 and CH2 ranges to be equal. 8) Adjust R124 for minimum Y signal.
(3)	Delay Y phase	↑ 	R131 6 5	Pulse & bar	↑	9) Adjust R131 to coincide the phase of TP16's signal with that of TP17's.
(4)	Noise level	VIDEO OUT (75 Ω terminated) ↓ Vectorscope 	R144 6 5	Colour bars	↑ TBC SW: OFF	10) Shortcircuit between TP26 0 3 and TP27 0 3 (+12 V DC). 11) Adjust the vectorscope's GAIN control to position the bright point of yellow signal on the circumference of the screen. 12) Adjust R144 so that sway of the yellow signal's bright point is minimized. 13) If there remains swaying after adjustments, subtly adjust R117 6 5 and R131 6 5. 14) Remove the shorting lead.

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
7	Linearity compensator					
(1)	S-VHS mode	VIDEO OUT (75 Ω terminated) ↓ Waveform monitor 	R111 0 2	Stairstep (5 steps)	S-VHS REC ↓ PB	1) Set the waveform monitor to "DIFF'D STEP' mode. 2) Turn R111 fully clockwise once, then, turn it slowly counterclockwise to set it at the position where the rightmost pulse and the leftmost pulse become the same (A = B) in the level for the first time.
(2)	VHS mode	↑	R104 0 2	Stairstep (5 steps)	VHS REC ↓ PB	3) Slowly turn R104 clockwise from the most counterclockwise position, and set it at the position where the rightmost pulse and the leftmost pulse become the same in the level for the first time.
8	Y/C627 Y OUT level					
(1)	S-VHS mode	Y/C627 OUT Y OUT (1 kΩ terminated) ↓ Waveform monitor	R133 0 2 	Colour bars	S-VHS REC ↓ PB	**Note:** If Y level for S-VHS mode is adjusted, that for VHS mode is changed, too. Therefore, the following steps for VHS mode must take place after this adjustment. 1) Turn R17 6 5 and R62 6 5 fully counterclockwise. 2) Adjust R133 to obtain 1.0 Vp-p as the output level.
(2)	VHS mode	↑	R84 6 5	↑	VHS REC ↓ PB	3) Perform the same adjustment as the step 2) with R84.
9	S-VHS frequency response					
(1)	Video equalizer	Y/C443 OUT Y OUT (75 Ω terminated) 	R26 6 5	MBVE-3H TRIG: TP11 1 0 ⊖ slope	S-VHS PB	1) Play back the alignment tape MBVE-3H. 2) Trigger the oscilloscope by minus (–) slope. 3) Set the 100 kHz signal level to be 5 scale divisions on the oscilloscope screen, and referring to it, adjust the 4.0 MHz signal level for 4.5 scale divisions.
		↑	R208 6 7	↑ TRIG: TP11 1 0 ⊕ slope	↑	4) Trigger the oscilloscope by plus (+) slope. 5) Perform the same adjustment as the step 3) with R208.

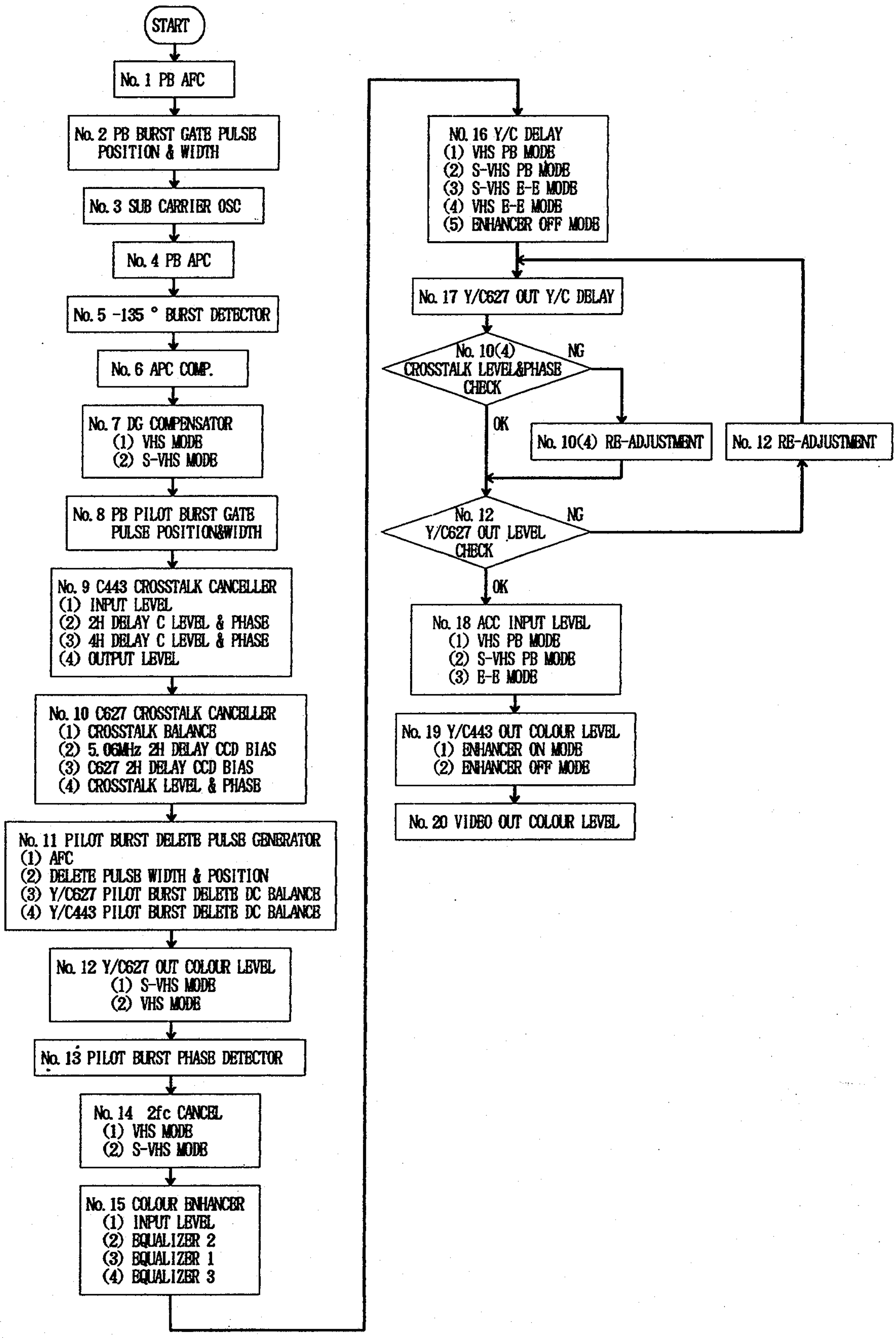
<table>
<tr><th>No.</th><th>Item</th><th>Check Point</th><th>Adjustment Parts</th><th>Signal</th><th>Mode</th><th>Description</th></tr>
<tr><td>(2)</td><td>Auto equqlizer</td><td>Y/C443 OUT
Y OUT
(75 Ω terminated)
 </td><td>CH1: R179
CH2: R180
6 7</td><td>MBVE-14H</td><td>PB
 </td><td>6) The MBVE-14H alignment tape reference signal is recorded on line 11.
Before adjusting, set the switches as follows.
• FM REC/PB 6 7
SW1
<table>
<tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
</table>
7) Play the MBVE-14H alignment tape.
8) Set SW2 6 7 to "MANU" side and measure 4 MHz level. Call this level "A".
9) Set SW2 6 7 to "AUTO" side and adjust the 4 MHz level to level "A".
Wait about 5 seconds after entering the Play mode before adjusting.
10) Set to Stop, then again to Play. Confirm above 9).</td></tr>
<tr><td>(3)</td><td>Reference signal level</td><td>TP10 0 1
 </td><td>R120 6 6</td><td>Video sweep (B/W)
↓
Y/C443 IN
Y IN
TRIG: CN4 pin 12 6 6
⊕slope</td><td>S-VHS
E-E</td><td>11) Supply a video sweep signal via the 7-pin input cable to the Y input of the Y/C443 IN connector.
12) Of the line 11 reference signal at TP10, adjust the right (625 kHz) level with R120 for 0.12 Vp-p.</td></tr>
<tr><td></td><td></td><td>Y/C443 OUT
Y OUT
(with 75 Ω termination)</td><td>R123 6 6</td><td>↑
TRIG: TP11 1 0</td><td>S-VHS
REC
↓
PB
 </td><td>13) Of the self-recorded waveforms, adjust the oscilloscope to set the 100 kHz component to 5 scale divisions.
14) Confirm 4 MHz level of 4 scale divisions.
■ **If out of specifications:**
Turn R123, record and play back. Again check as above step 7).
• If the 4 MHz level is too large: adjust for slightly larger 3.8 MHz level in step 12).
• If too low: adjust for slightly smaller 3.8 MHz level.</td></tr>
</table>

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
10	VHS frequency response					
(1)	PB mode	Y/C443 OUT Y OUT (75 Ω terminated)	CH1: R43 CH2: R44 0 5	MH-8 TRIG: TP11 1 0 ⊖ slope: CH1 ⊕ slope: CH2	PB	1) Set the 100 kHz signal level for 5.0 scale divisions on the oscilloscope screen, adjust level of the 2.0 MHz signal for 4.5 scale divisions (–1 dB).
(2)	Still mode	↑	CH1: R65 CH2: R66 0 5	↑	STILL	2) Adjust JOG dial so that the 2 MHz level is minimized. 3) Set the 100 kHz signal level for 5.0 scale divisions on the oscilloscope screen, adjust level of the 2.0 MHz signal for 3.5 scale divisions (–3 dB).
11	Y OUT level					
(1)	Y/C443 OUT level	Y/C443 OUT Y OUT (75 Ω terminated) ↓ Waveform monitor 	R50 3 7	Colour bars	S-VHS REC ↓ PB	1) Turn R17 6 5 and R62 6 5 fully counterclockwise. 2) Adjust R50 to obtain 1.0 Vp-p as the output Y level.
(2)	VIDEO OUT level	VIDEO OUT (75 Ω terminated) ↓ Waveform monitor	R53 3 7	↑	↑	3) Adjust R53 so that the Y level is 1.0 Vp-p.

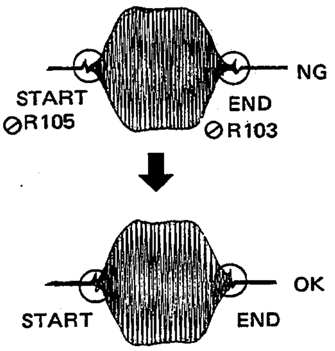
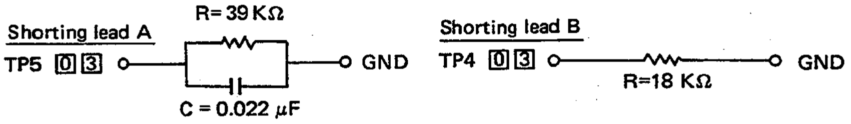
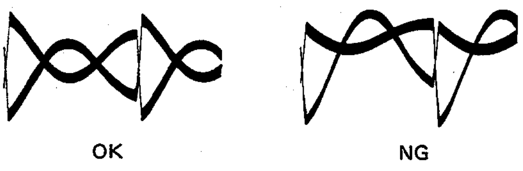
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
12	SYNC level					
(1)	S-VHS mode	VIDEO OUT (75 Ω terminated) ↓ Waveform monitor	R17 $\boxed{6}\boxed{5}$	100% white (Full flat field)	S-VHS REC ↓ PB	1) Record the 100% white signal and play it back. 2) Turning R17 clockwise from the counter-clockmost position, set it to the point where 0.3 Vp-p is obtained as the sync. level for the first time.
						
		↑	R40 $\boxed{6}\boxed{5}$	Colour bars	↑	3) Record the colour bars signal and play it back. 4) Adjust R40 so that the Y level is 1.0 Vp-p. 5) Repeat the steps 1) and 2) and confirm that the specifications of the steps 2) and 4) are satisfied together.
						
(2)	VHS mode	↑	R62 $\boxed{6}\boxed{5}$	100% white (Full flat field)	VHS REC ↓ PB	6) Record the 100% white signal and play it back. 7) Turning R62 clockwise from the counter-clockmost position, set it at the point where 0.3 Vp-p is obtained as the sync. level for the first time.
		↑	R84 $\boxed{6}\boxed{5}$	Colour bars	↑	8) Record the colour bars signal and play it back. 9) Adjust R84 so that the Y level is 0.3 Vp-p. 10) Repeat the steps 6) and 7), and confirm that the specifications of the steps 7) and 9) are satisfied together.

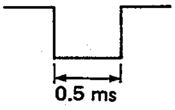
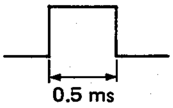
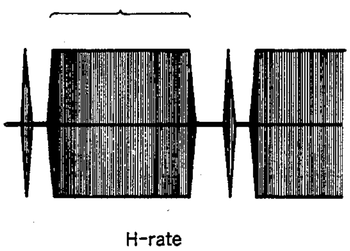
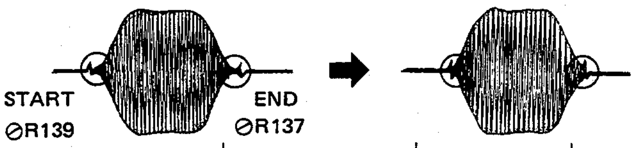
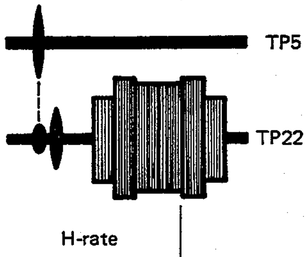
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
13	V. pulse POSITION & LEVEL	VIDEO OUT (75 Ω terminated) TP7 [0][2] 	R88 [0][2] R84 [0][2]	Colour bars	S-VHS REC ↓ PB ↓ STILL 	1) Record the colour bars signal and play it back. 2) Observe the playback signal in the Still mode and use the JOG dial to erase noise bars on the TV monitor. 3) Adjust R88 so that the rise point of TP7's pulse is 2.5H before the fall point of the V. sync. signal. 4) Adjust R84 so that TP7's pulse width is 4H.
		VIDEO OUT (75 Ω terminated)	–	↑	↑ 	5) Set the SW2 [0][2] to the lower position and confirm that TP7's V. pulse is impressed.
14	DOC RF OUT level					
(1)	S-VHS mode	DOC RF OUT (75 Ω terminated)	R6 [3][7]	Colour bars TRIG: TP11 [1][0]	S-VHS REC ↓ PB	1) Record the colour bars signal and play it back. 2) Adjust pedestal level of the FM waveform for 0.5 Vp-p. **Note:** If there is level difference between channels, set them for an average value.
(2)	VHS mode	↑	R16 [3][7]	↑	VHS REC ↓ PB	3) Record the colour bars signal and play it back. 4) Adjust pedestal level of the FM waveform for 0.5 Vp-p. **Note:** If there is level difference between channels, set them for an average value.

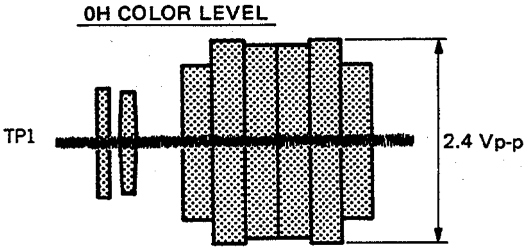
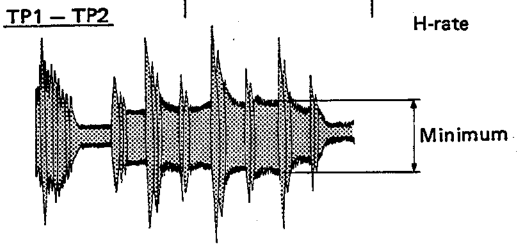
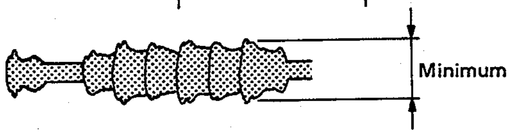
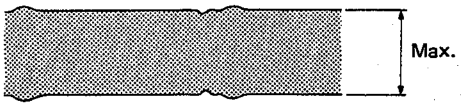
3.5.5 PB COLOUR CIRCUIT

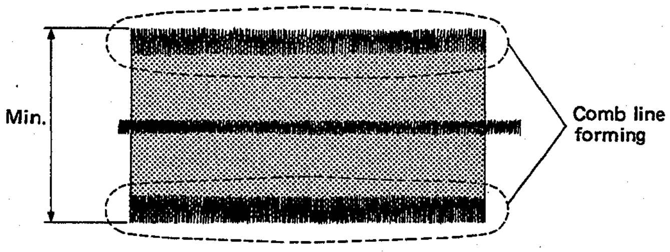
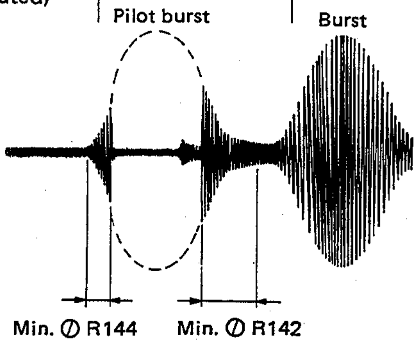
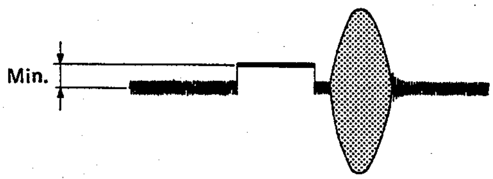

START
No. 1 PB AFC
No. 2 PB BURST GATE PULSE POSITION & WIDTH
No. 3 SUB CARRIER OSC
No. 4 PB APC
No. 5 -135 ° BURST DETECTOR
No. 6 APC COMP.
No. 7 DG COMPENSATOR (1) VHS MODE (2) S-VHS MODE
No. 8 PB PILOT BURST GATE PULSE POSITION&WIDTH
No. 9 C443 CROSSTALK CANCELLER (1) INPUT LEVEL (2) 2H DELAY C LEVEL & PHASE (3) 4H DELAY C LEVEL & PHASE (4) OUTPUT LEVEL
No. 10 C627 CROSSTALK CANCELLER (1) CROSSTALK BALANCE (2) 5.06MHz 2H DELAY CCD BIAS (3) C627 2H DELAY CCD BIAS (4) CROSSTALK LEVEL & PHASE
No. 11 PILOT BURST DELETE PULSE GENERATOR (1) AFC (2) DELETE PULSE WIDTH & POSITION (3) Y/C627 PILOT BURST DELETE DC BALANCE (4) Y/C443 PILOT BURST DELETE DC BALANCE
No. 12 Y/C627 OUT COLOUR LEVEL (1) S-VHS MODE (2) VHS MODE
No. 13 PILOT BURST PHASE DETECTOR
No. 14 2fc CANCEL (1) VHS MODE (2) S-VHS MODE
No. 15 COLOUR ENHANCER (1) INPUT LEVEL (2) EQUALIZER 2 (3) EQUALIZER 1 (4) EQUALIZER 3
NO. 16 Y/C DELAY (1) VHS PB MODE (2) S-VHS PB MODE (3) S-VHS E-E MODE (4) VHS E-E MODE (5) ENHANCER OFF MODE
No. 17 Y/C627 OUT Y/C DELAY
No. 10(4) CROSSTALK LEVEL&PHASE CHECK
NG
OK
No. 10(4) RE-ADJUSTMENT
No. 12 RE-ADJUSTMENT
No. 12 Y/C627 OUT LEVEL CHECK
NG
OK
No. 18 ACC INPUT LEVEL (1) VHS PB MODE (2) S-VHS PB MODE (3) E-E MODE
No. 19 Y/C443 OUT COLOUR LEVEL (1) ENHANCER ON MODE (2) ENHANCER OFF MODE
No. 20 VIDEO OUT COLOUR LEVEL

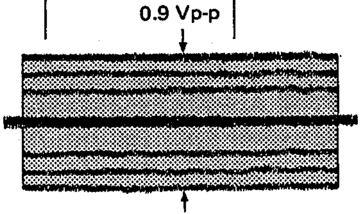
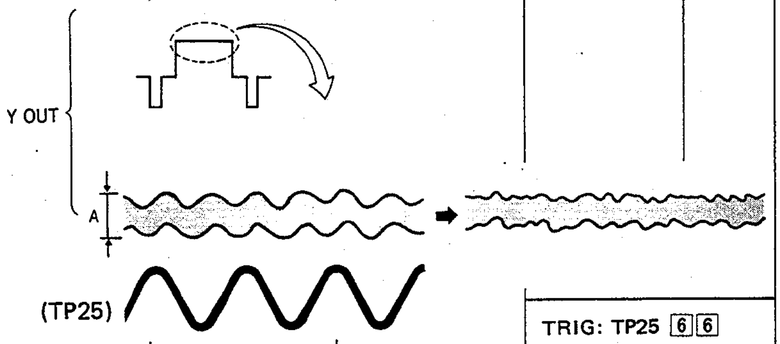
Note: No. 21 is REC colour system, but perform after completing Y/C627 OUT colour level and Y/C delay adjustment.

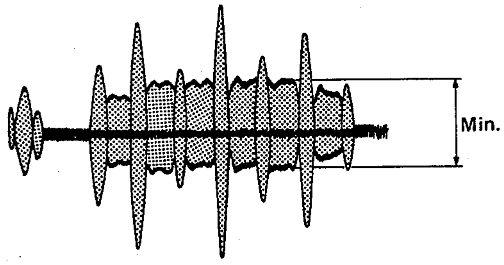
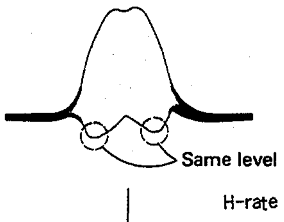
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
1	PB AFC	TP23 $\boxed{0}\boxed{3}$ ↓ Frequency counter TP23 : 625 kHz ± 2 kHz	R90 $\boxed{0}\boxed{3}$	No signal VIDEO INPUT SW : Y/C627	S-VHS E-E	1) Adjust frequency at TP23 for the specified value (625 kHz ± 2 kHz) by R90.
2	PB burst gate position & width	TP13 $\boxed{0}\boxed{3}$  	R105 $\boxed{0}\boxed{3}$ R103 $\boxed{0}\boxed{3}$	Colour bars	VHS REC ↓ PB	1) Record the colour bars signal and play it back. 2) Adjust R105 to position the burst start at the foot of the TP13's waveform. 3) Adjust R103 to position the burst end at the foot of the TP13's waveform.
3	Sub carrier osc.	TP3 $\boxed{0}\boxed{3}$ ↓ Frequency counter TP3 : 4.433619 MHz ± 5 Hz	C49 $\boxed{0}\boxed{3}$	Colour bars	S-VHS E-E	1) Adjust C49 so that frequency at TP3 is 4.433619 MHz ± 5 Hz.
4	PB APC	TP6 $\boxed{0}\boxed{3}$ ↓ Frequency counter TP6 : 4.435572 MHz ± 30 Hz  Shorting lead A TP5 $\boxed{0}\boxed{3}$ R=39 KΩ C = 0.022 μF GND Shorting lead B TP4 $\boxed{0}\boxed{3}$ R=18 KΩ GND	C65 $\boxed{0}\boxed{3}$	Colour bars	S-VHS E-E	1) Shortcircuit TP5 $\boxed{0}\boxed{3}$ and GND with such the shorting lead A while TP4 $\boxed{0}\boxed{3}$ and GND with the shorting lead B. 2) Adjust C65 so that frequency at TP6 is 4.435572 MHz ± 30 Hz. 3) Remove both the shorting leads.
		TP7 $\boxed{0}\boxed{3}$  	R158 $\boxed{0}\boxed{3}$	↑ TRIG: VIDEO OUT H-rate	VHS E-E	4) Shortcircuit TP26 $\boxed{0}\boxed{3}$ and TP27 $\boxed{0}\boxed{3}$. 5) Adjust R158 to shape the TP7's waveform vertically symmetric.
5	−135° burst detector	TP14 $\boxed{0}\boxed{3}$ ↓ Frequency counter TP14 : 4.433619 MHz ± 30 Hz	C113 $\boxed{0}\boxed{3}$	Colour bars	S-VHS E-E	1) Shortcircuit TP13 $\boxed{0}\boxed{3}$ and GND with the shouring lead A while TP12 $\boxed{0}\boxed{3}$ and GND with the shoring lead B. (refer to No. 4) 2) Adjust C113 so that frequency at TP14 is 4.433619 MHz ± 30 Hz. 3) Remove both the shoring leads.

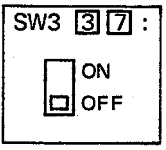
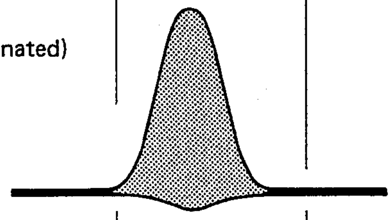
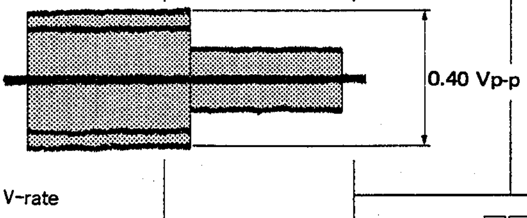
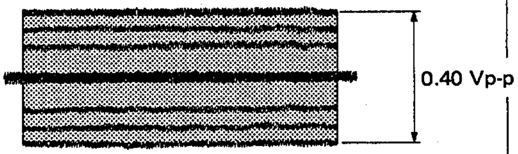
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
6	APC comp.	TP15 $\boxed{0}\boxed{3}$	R134 $\boxed{0}\boxed{3}$  	MHVE-2	PB	1) Play back the alignment tape MHVE-2. 2) Adjust R134 so that TP15's pulse width is 0.5 msec.
		TP16 $\boxed{0}\boxed{3}$	R132 $\boxed{0}\boxed{3}$  	↑	↑	3) Adjust R132 so that TP16's pulse width is 0.5 msec.
7	DG compensator					
(1)	VHS mode	VIDEO OUT (75 Ω terminated) ↓ Waveform monitor (4.43 MHz BPF mode)	R31 $\boxed{0}\boxed{3}$  	Mod. stair-step (5 steps)	VHS REC ↓ PB	1) Record the modulated 5-step stairstep signal and play it back. 2) Set the waveform monitor to "4.43 MHz BPF" mode. 3) Adjust R31 to flatten the waveform by the both (upper and lower) edges. ● **Oscilloscope is used for this adjustment:** 1)' Terminate C OUT of the Y/C443 OUT terminal with a 75-ohm resistor for observation by an oscilloscope. 2)' Trigger the oscilloscope to the Y OUT. 3)' Observing the oscilloscope screen, perform the above step 3).
(2)	S-VHS mode	↑	R157 $\boxed{0}\boxed{3}$	↑	S-VHS REC ↓ PB	4) Perform the same adjustment as the steps 1) to 3) with R157.
8	PB pilot burst gate pulse position & width	TP5 $\boxed{0}\boxed{3}$  	R139 $\boxed{0}\boxed{3}$ R137 $\boxed{0}\boxed{3}$	Colour bars	S-VHS E-E	1) Adjust R139 so that pilot burst starts at the foot of the waveform. 2) Adjust R137 so that pilot burst ends at the foot of the waveform.
		TP22 $\boxed{0}\boxed{3}$ TP5 $\boxed{0}\boxed{3}$	–  	Colour bars	S-VHS E-E	3) Confirm that TP5's waveform is located at the same point as where the pilot burst is located.

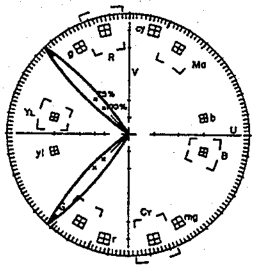
No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
9	C443 crosstalk canceller					
(1)	Input level	TP1 [6][3] 	R2 [6][3]	Colour bars	S-VHS E-E	1) Adjust R2 to obtain 2.4 Vp-p as TP1's signal level.
(2)	2H delay C level & phase	TP1 [6][3] TP2 [6][3] 	R8 [6][3] L3 [6][3]	↑	↑	2) Set the oscilloscope's both channels for 100 mV/div., AC coupling. 3) Subtract TP2's signal level from that of TP1 on the oscilloscope. TP1 TP2 "INV"]– "ADD" Use R8 and L3 to minimize chroma level (less than 240 mVp-p).
(3)	4H delay C level & phase	TP2 [6][3] TP3 [6][3]	L6 [6][3] R16 [6][3]	↑	↑	4) In the same manner as the step 3), subtract TP3 from TP2 in signal levels, and minimize the chroma level by R16 and L6 (less than 160 mVp-p). TP2 TP3 "INV"]– "ADD"
(4)	Output level	TP7 [6][3]	R33 [6][3]	↑	↑	5) Adjust R33 to obtain 1.0 Vp-p as colour output level at TP7.
10	C627 crosstalk canceller					
(1)	Crosstalk balance	TP5 [6][3] 	R35 [6][3] R23 [6][3]	Colour bars	S-VHS E-E	1) Alternately adjust R35 and R23 to minimize chroma level of TP5's signal.
(2)	5.06 MHz 2H delay CCD bias	C53 [6][3] (upper side) 	R40 [6][3] R47 [6][3]	↑	↑	2) Alternately adjust R40 and R47 to maximize signal level at C53 (upper side).
(3)	C627 2H delay CCD bias	TP12 [6][3]	R85 [6][3] R92 [6][3]	↑	↑	3) Alternately adjust R85 and R92 to maximize signal level at TP12.

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
(4)	Crosstalk level & phase	TP13 6 3  	R62 R66 } 6 3 R79	Colour bars	S-VHS REC ↓ PB	4) Set R79 to the mechanical center position. 5) Turn the TRACKING VR fully clockwise. 6) Adjust R62 and R66 repeatedly to minimize comb line forming at the top and bottom of the waveform as well as level fluctuation. 7) Use R79 to do the same adjustment as the above step 6).
11	Pilot burst delete pulse generator					
(1)	AFC	TP25 0 3 ↓ Frequency counter TP25 : 621 kHz ± 2 kHz	R166 0 3	No signal VIDEO INPUT SW : Y/C627	S-VHS E-E	1) Adjust frequency at TP25 for the specified value (621 kHz ± 2 kHz) by R166.
(2)	Delete pulse width & position	Y/C443 OUT C OUT (75 Ω terminated)  	R142 0 3 R144 0 3	Colour bars	S-VHS REC ↓ PB	2) Adjust R144 so that pilot burst delete pulse starts at the foot of the waveform. 3) Adjust R142 so that pilot burst delete pulse ends at the foot of the waveform. After the above adjustment, make sure to confirm that neither pilot burst signal nor burst signal remains in the waveform.
(3)	Y/C627 pilot burst delete DC balance	TP13 6 3  	R117 6 3	↑ Y/C627 OUT SW : VHS	S-VHS E-E	4) Adjust R117 to even the burst level at the axis. 5) Confirm that there is no pilot burst observed.
(4)	Y/C443 pilot burst delete DC balance	TP2 0 3	R148 0 3	↑	S-VHS E-E	1) Adjust R148 to even the waveform of TP2's burst signal at the axis.

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
12	Y/C627 OUT color level					
(1)	S-VHS mode	Y/C627 OUT C OUT (1 kΩ terminated)	R115 [6][3] 	Colour bars TRIG: TP11 [1][0]	S-VHS REC ↓ PB	1) Recording the colour bars signal and play it back. 2) Adjust R115 to obtain 0.9 Vp-p.
(2)	VHS mode	↑	R113 [6][3]	↑	VHS REC ↓ PB	3) Recording the colour bars signal and play it back. 4) Adjust R113 to obtain 0.9 Vp-p.
13	Pilot burst phase detector check	TP28 [0][3] SW1 [6][6] — TP28 [0][3] 90° ☐ 270° — 9.0–11.0 VDC ☐ — 0 VDC	–	↑	S-VHS E-E	1) Shortcircuit TP26 [0][3] and TP27 [0][3]. 2) Set SW1 [6][6] to the right side and confirm that the signal level is 9.0 to 11.0 V DC. 3) Set SW1 [6][6] to the left side and confirm that signal level is 0 V. 4) Return SW1 [6][6] to the right side and remove the shorting lead.
14	2fc cancel					
(1)	VHS mode	Y/C443 OUT Y OUT (with 75 Ω termination) 	R19 [6][7]	100% Chroma TRIG: TP25 [6][6]	VHS REC ↓ PB	1) Trigger the oscilloscope with the signal from TP25 of the REC C board [6][6]. 2) Record and play back a 100% chroma signal (another pure colour with large colour level may also be used). 3) Measure level "A" indicated in the figure. 4) Slightly turn R19, record and play back, then again measure level "A". 5) Repeat these steps until R19 is set for minimum level "A". **Note:** If the minimum point of level "A" is difficult to determine, record while gradually turning R19. The point of minimum level can then be noted during playback.
(2)	S-VHS mode	↑	R18 [6][7]	↑	S-VHS REC ↓ PB	6) In the S-VHS mode, perform the same adjustment as the steps 1) to 5) by R18.

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
15	Colour enhancer					
(1)	Input level	TP4 [3][7]	R159 [0][3]	Colour bars	S-VHS REC ↓ PB	1) Record the colour bars signal and play it back. 2) Adjust R159 so that the burst level is 0.3 Vp-p.
(2)	Equalizer 2	TP8 [3][7] 	R67 [3][7] EQ2 [3][7]	↑	↑	3) Connect an oscilloscope to TP8. 4) Adjust R67 and EQ2 alternately for minimum "A".
(3)	Equalizer 1	TP5 [3][7]	R65 [3][7] EQ1 [3][7]	↑	↑	5) Connect the oscilloscope to TP5. 6) In the same manner, adjust R65 and EQ1.
(4)	Equalizer 3	TP9 [3][7]	R69 [3][7] EQ3 [3][7]	↑	↑	7) Connect the oscilloscope to TP9. 8) In the same manner, adjust R69 and EQ3.
16	Y/C delay					
(1)	VHS PB mode	VIDEO OUT (75 Ω terminated) 	R38 [6][6]	Pulse & bar	VHS REC ↓ PB SW3 [3][7] ☐ ON OFF	1) Record the pulse & bar signal and play it back. **Note:** When such a waveform as shown on the left is not obtained due te too high (low) signal level, use R81 [3][7] for the adjustment. 2) Adjust R38 so that the base of the mod. 20T pulse is symmetrical.
(2)	S-VHS PB mode	↑	R37 [6][6]	↑	S-VHS REC ↓ PB	3) In the same manner, adjust R37.
(3)	S-VHS E-E mode	↑	R23 [6][6]	↑	S-VHS E-E	4) Adjust R23 to symmetrize the 20T pulse at the bottom. (Prior to this adjustment, use R130 to extend the waveform a little larger than the flat one.)
(4)	VHS E-E mode	↑	R24 [6][6]	↑	VHS E-E	5) Adjust R24 to symmetrize the 20T pulse at the bottom.

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
(5)	Enhancer OFF mode	VIDEO OUT (75 Ω terminated)	R45 66	Pulse bar 	S-VHS REC ↓ PB	6) Set SW3 37 to "OFF" position. 7) Adjust R45 so that the base of the 20T pulse becomes flat or symmetrical. 8) Return SW3 37 to "ON" position.
17	Y/C627 OUT Y/C delay	Y/C627 OUT Y OUT C OUT (1 kΩ terminated)	R107 63 	Pulse & bar	S-VHS REC ↓ PB	1) Record the pulse & bar signal and play it back. 2) On the oscilloscope screen, mix output waveforms of Y OUT and C OUT of the Y/C627 OUT terminal. 3) Adjust R107 so that the base of the 20T pulse becomes flat or symmetrical. 4) Confirm that the item No. 10 C627 Crosstalk canceller and No. 12 'Y/C627 OUT colour level.
18	ACC input level					
(1)	VHS PB mode	TP25 66 	R40 66	MHVE-2 TRIG:TP11 10	PB	1) Play back the alignment tape MHVE-2. 2) Adjust R40 to obtain 0.40 Vp-p at TP25.
(2)	S-VHS PB mode	↑ 	R39 66	MHVE-2H TRIG: TP11 10	PB	3) Play back the alignment tape MHVE-2H. 4) Adjust R39 to obtain 0.40 Vp-p as the colour level at TP25.
(3)	E-E mode	↑	R28 66	Colour bars	S-VHS E-E	5) Adjust R28 to obtain 0.40 Vp-p as the colour level at TP25.

No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
19	Y/C443 OUT colour level					
(1)	Enhancer ON mode	Y/C443 OUT C OUT (75 Ω terminated) ↓ Vectorscope 	R159 [0][3]	Colour bars SW3 [3][7] ▣ ON ☐ OFF	S-VHS REC ↓ PB	1) Record the colour bars signal and play it back. 2) With input of the reference colour bars signal (EBU75%) to a vectorscope, adjust the vectorscope's GAIN control so that burst level crosses the scope's circumference. 3) Change the input signal to the vectorscope from the reference colour bars signal to PB signal from the Y/C443 OUT. 4) Adjust R159 to equalize level of the luminous point of the burst signal with the level of the reference colour bars signal.
(2)	Enhancer OFF mode	↑	R91 [3][7]	↑ SW3 [3][7] ☐ ON ▣ OFF	↑	5) Set SW3 [3][7] to "OFF" position. 6) In the same manner, adjust R91. 7) Return SW3 to "ON" position.
20	VIDEO OUT colour level	VIDEO OUT (75 Ω terminated) ↓ Vectorscope	R81 [3][7]	Colour bars	S-VHS E-E	1) With input of the reference colour bars signal (EBU75%) to a vectorscope, adjust the vectorscope's GAIN control so that burst level crosses the vectorscope's circumference. 2) Change the input signal to the vectorscope from the reference colour bars signal to the VIDEO OUT signal. 3) Adjust R81 so that the burst signal's luminous point is on the vectorscope's circumference. 4) Adjust R81 to equalize level of the luminous point of the burst signal with the level of the reference colour bars signal.

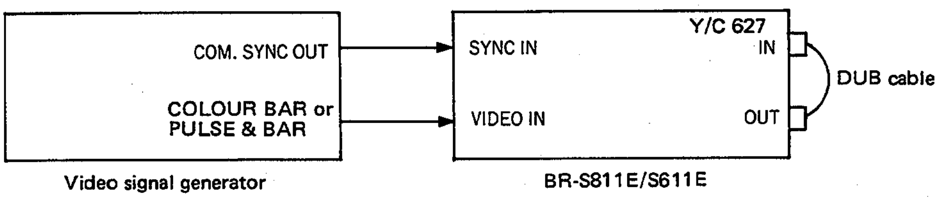
- **Y/C627 signal composition**

The adjustment of Item No. 21 may be performed under Section 3.5.2 REC colour circuit if a precisely adjusted set or a signal generator capable of supplying the specified signals is available. If not available, perform by the following method.

Reason: The recorded composite video signal is played back and the Y/C627 output is used as the input signal.

1) Set the REC mode switch as specified prior to recording.
   For example, if a VHS mode recorded tape is used for S-VHS mode E-E adjustment, the recording system is automatically switched to the VHS mode, thereby preventing adjustment.
2) Record the specified signal in composite form.
   Record a composite colour bars for the Y/C627 colour bars.
3) Synchronize externally prior to playback. Apply composite sync to SYNC IN or supply a composite video signal input. Set the SYNC switch to EXT (PB).
   Without external sync, the playback signal becomes the servo reference and the servo operates unstably.
4) Set VIDEO INPUT switches to Y/C627.
5) Connect the accessory dub cable (7P - 7P) between Y/C627 OUT and Y/C627 IN, then set for Play mode.
   The playback output signal is used as the input.

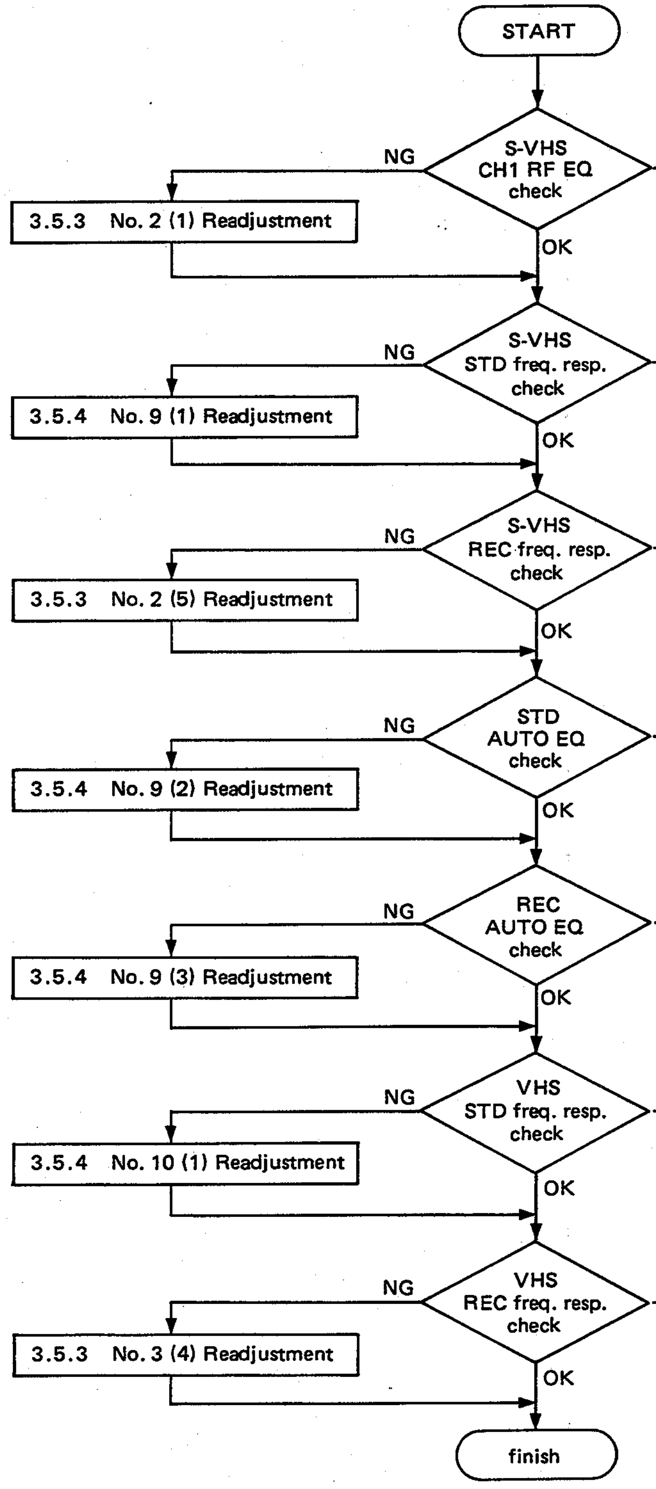
The above settings provide the Y/C627 signal input.



No.	Item	Check Point	Adjustment Parts	Signal	Mode	Description
21	Adjustment with Y/C627 input					
(1)	REC Y/C delay					
①	S-VHS mode	TP10 $\boxed{0}\boxed{1}$ TP26 $\boxed{6}\boxed{6}$	R8 $\boxed{6}\boxed{6}$	Y/C627 Pulse & bar Y/C627 OUT SW: S-VHS	S-VHS	**Note:** Before this adjustment, record and play back a pulse and bar signal. Check for matching of the Y/C delay in the Y/C627 output. 1) Input the Y/C627 pulse & bar signal by the above method. 2) On the oscilloscope set for 'ADD' mode, mix TP10 and TP26 signals. 3) Adjust R8 so that the base of the mod. 20T pulse becomes flat or symmetrical.
②	VHS mode	TP8 $\boxed{0}\boxed{1}$ TP26 $\boxed{6}\boxed{6}$	R10 $\boxed{6}\boxed{6}$	↑ Y/C627 OUT SW: VHS	VHS	4) In the same manner, adjust R10.
(2)	Y/C627 colour level					
①	S-VHS mode	TP26 $\boxed{6}\boxed{6}$	R9 $\boxed{6}\boxed{6}$	Y/C627 colour bars Y/C627 OUT SW: S-VHS	S-VHS	**Note:** Before this adjustment, record and play back a colour bar. Confirm C627 output of 0.9 Vp-p (1 kΩ termination). 1) Input the Y/C627 colour bars signal by the above method. 2) Adjust R9 to obtain 0.26 Vp-p at TP26.
②	VHS mode	↑	R11 $\boxed{6}\boxed{6}$	↑ Y/C627 OUT SW: VHS	VHS	3) In the same manner, adjust R11.

3.5.6 Frequency responce check

Unless otherwise specified, apply video sweep signal (without burst) to Y IN of YC443 IN. Check Y OUT of Y/C443 OUT using 75-ohm termination. All items of the following sequence must be satisfied.



START
S-VHS CH1 RF EQ check
NG
OK
3.5.3 No. 2 (1) Readjustment
S-VHS STD freq. resp. check
3.5.4 No. 9 (1) Readjustment
S-VHS REC freq. resp. check
3.5.3 No. 2 (5) Readjustment
STD AUTO EQ check
3.5.4 No. 9 (2) Readjustment
REC AUTO EQ check
3.5.4 No. 9 (3) Readjustment
VHS STD freq. resp. check
3.5.4 No. 10 (1) Readjustment
VHS REC freq. resp. check
3.5.3 No. 3 (4) Readjustment
finish

*Each level is indicated with the 100 kHz level set to 5.0 scale divisions on the oscilloscope.

MBVE-3H alignment tape playback at TP2 6 5
CH1 4 MHz level : 5.0 div.
(0 dB with respect to 100 kHz level)

MBVE-3H alignment tape playback
4 MHz level : 4.0 – 5.0 div.
(–1 ± 1 dB with respect to 100 kHz level)
CH difference : within 1.5 dB

S-VHS mode Rec/Playback SW2 6 7 : MANU
4 MHz level : 3.6 – 4.5 div.
(–1 ± 1 dB with respect to STD 4 MHz level)
CH difference : within 1.5 dB

MBVE-14H alignment tape playback SW2 6 7 : AUTO
Confirm same 4 MHz level (0 ± 1 dB) at both MANU and AUTO setting of SW2 6 7.

S-vhs mode Rec/Playback SW2 6 7 : AUTO
4 MHz level : 3.6 – 4.5 div.
(–2 ± 1 dB with respect to 100 kHz level)
CH difference : within 1.5 dB

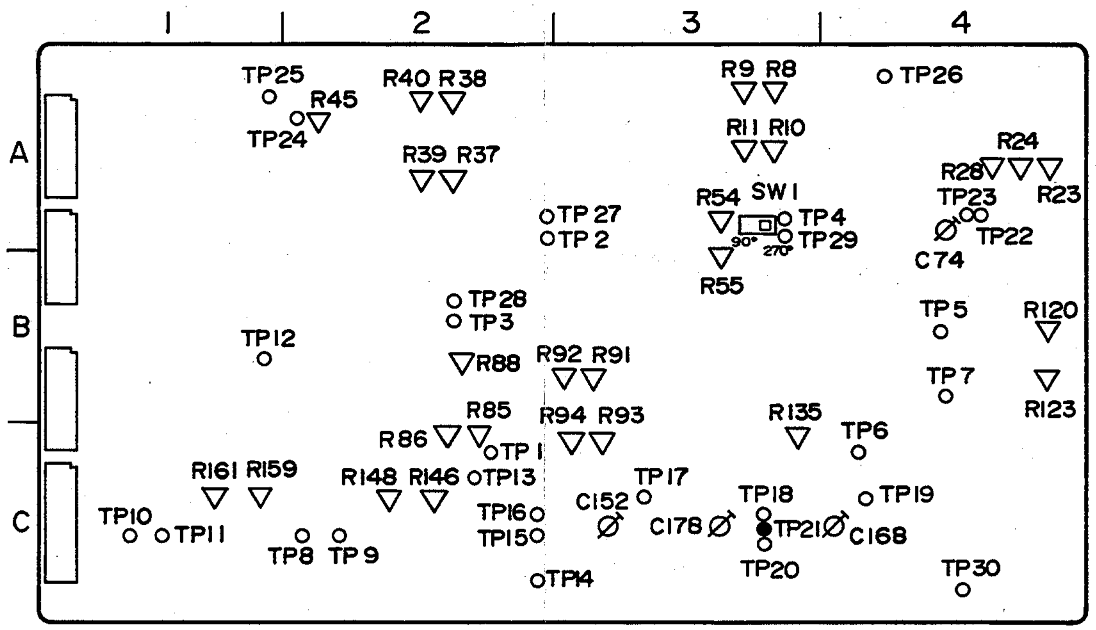
MH-8 alignment tape palyback
2 MHz level : 4.0 – 5.0 div.
(–1 ± 1 dB with respect to 100 kHz level)

VHS mode Rec/Playback
2 MHz level : 4.0 – 5.0 div.
(–1 ± 1 dB with respect to 100 kHz level)

- Location of check points and adjustment parts

VIDEO 1

REC C 6 6



1
2
3
4
A
B
C
TP25
R45
TP24
R40 R38
R39 R37
R9 R8
R11 R10
TP26
R24
R28
TP23
R23
TP22
C74
R54 SW1
TP4
TP29
90°
270°
R55
TP27
TP2
TP28
TP3
TP12
R88
R92 R91
TP5
R120
TP7
R123
R85
R86
TP1
R94 R93
R135
TP6
R161 R159
R148 R146
TP13
TP17
TP16
TP15
C152
C178
TP18
TP21
C168
TP19
TP10
TP11
TP8 TP9
TP14
TP20
TP30

TP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Loc.	C2	A2	B2	A3	B4	C4	B4	C2	C2	C1	C1	B1	C2	C2	C2	C2	C3	C3	C4	C3	C3	A4

TP	23	24	25	26	27	28	29	30
Loc.	A4	A2	A1	A4	A2	B2	A3	C4

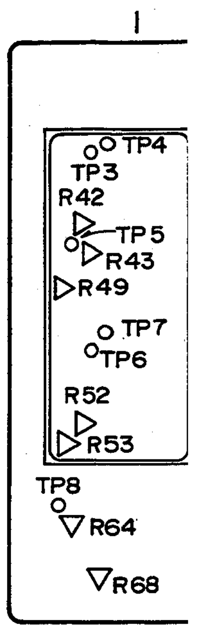
R	8	9	10	11	23	24	28	37	38	39	40	45	54
Loc.	A3	A3	A3	A3	A4	A4	A4	A2	A2	A2	A2	A2	A3

R	55	85	86	88	91	92	93	94	120	123	135	146	148	159	161
Loc.	B3	C2	C2	B2	B3	B3	C3	C3	B4	B4	C3	C2	C2	C1	C1

SW	1
Loc.	A3

C	74	152	168	178
Loc.	A4	C3	C4	C3

Y/C SEP 0 4

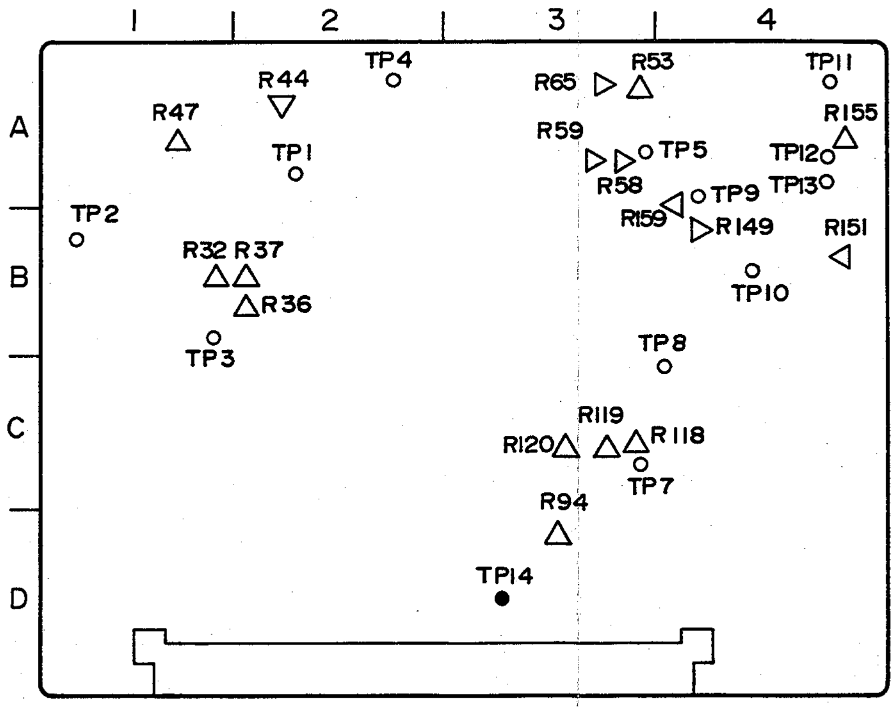


1
TP4
TP3
R42
TP5
R43
R49
TP7
TP6
R52
R53
TP8
R64
R68

TP	1	2	3
Loc.	A2	A1	A1

R	16	42	43
Loc.	B2	A1	B1

REC Y 0 1

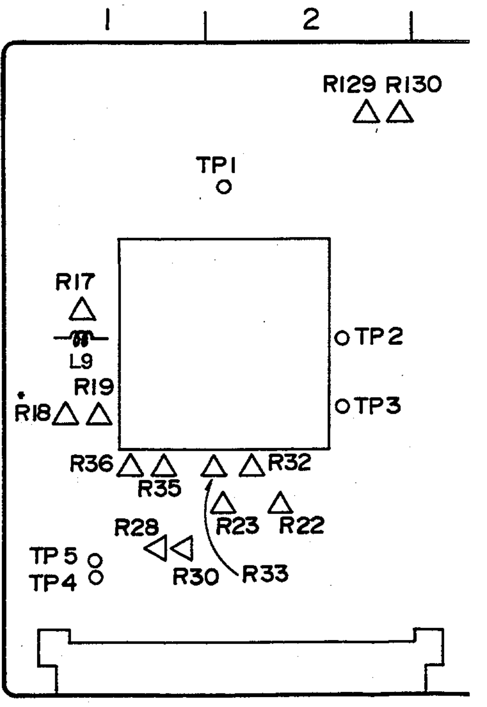


1
2
3
4
A
B
C
D
R44
TP4
R53
TP11
R65
R155
R47
TP1
R59
TP5
TP12
R58
TP9
TP13
TP2
R159
R149
R151
R32 R37
R36
TP10
TP3
TP8
R119
R120
R118
TP7
R94
TP14

TP	1	2	3	4	5	7	8	9	10	11	12	13	14
Loc.	A2	B1	B1	A2	A3	C3	C4	A4	B4	A4	A4	A4	D3

R	32	36	37	44	47	53	58	59	65	94	118	119	120	149	151	155	159
Loc.	B1	B2	B2	A2	A1	A3	A3	A3	A3	D3	C3	C3	C3	B4	B4	A4	A4

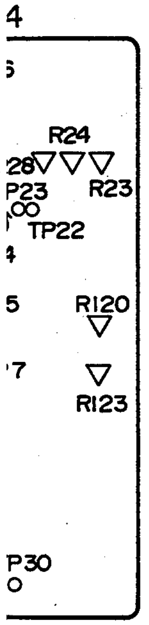
FM R/P 6 7



1
2
R129 R130
TP1
R17
L9
R19
R18
TP2
TP3
R36
R35
R32
R28
R23 R22
TP5
TP4
R30
R33

TP	1	2	3	4	5	6	7	8	9
Loc.	A2	B2	C2	D1	D1	D3	C4	D3	D3

R	17	18	19	22	23	28	30	32	33
Loc.	B1	C1	C1	C2	C2	D1	D1	C2	C2

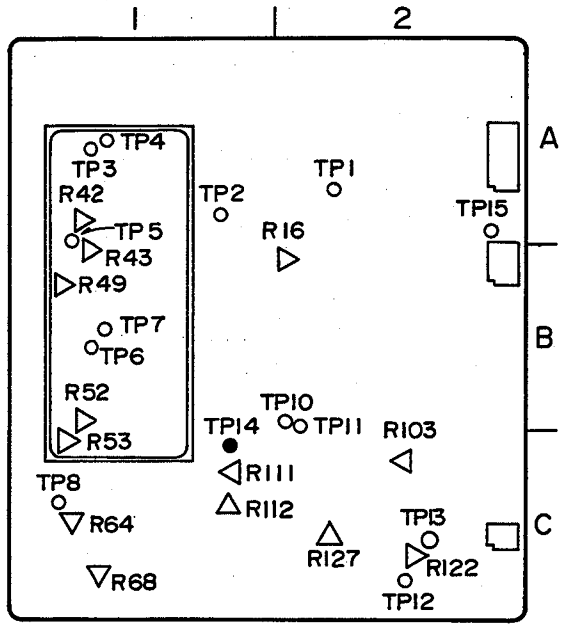

R24
R23
TP22
R120
R123

22	
A4	

45	54
A2	A3

152	168	178
C3	C4	C3

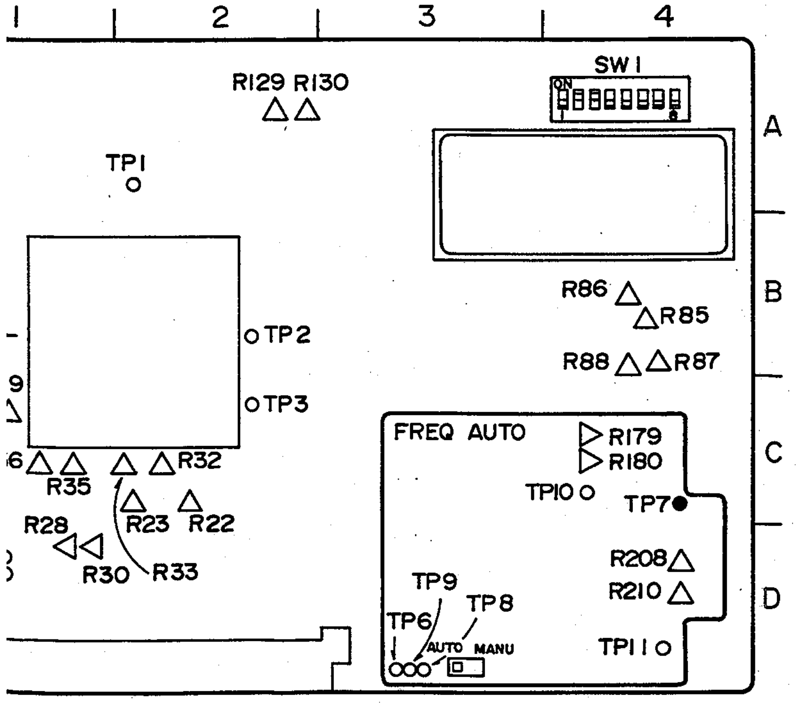
Y/C SEP 0 4


1
2
A
B
C
TP4
TP3
R42
TP5
R43
R49
TP7
TP6
R52
R53
TP2
TP1
R16
TP15
TP10
TP11
R103
TP14
R111
R112
R127
TP13
R122
TP12
TP8
R64
R68

TP	1	2	3	4	5	6	7	8	10	11	12	13	14	15
Loc.	A2	A1	A1	A1	A1	B1	B1	C1	B2	B2	C2	C2	C1	A2

R	16	42	43	49	52	53	64	68	103	111	112	122	127
Loc.	B2	A1	B1	B1	B1	C1	C1	C1	C2	C1	C1	C2	C2

P 6 7


1
2
3
4
A
B
C
D
R129 R130
SW1
TP1
TP2
TP3
R86
R85
R88
R87
R32
R35
R23
R22
R28
R30
R33
FREQ AUTO
R179
R180
TP10
TP7
R208
R210
TP9
TP8
TP6
AUTO
MANU
TP11

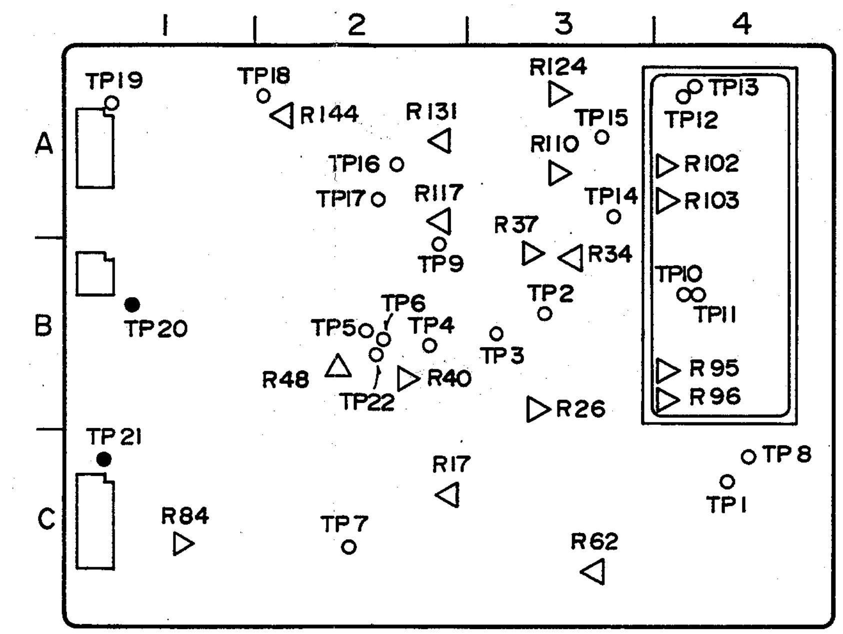
2	3	4	5	6	7	8	9	10	11
B2	C2	D1	D1	D3	C4	D3	D3	C4	D4

SW	1	2
Loc.	A4	D3

18	19	22	23	28	30	32	33	35	36	85	86	87	88	129	130	179	180	208	210
C1	C1	C2	C2	D1	D1	C2	C2	C1	C1	B4	B4	B4	B4	A2	A2	C4	C4	D4	D4

VIDEO 2

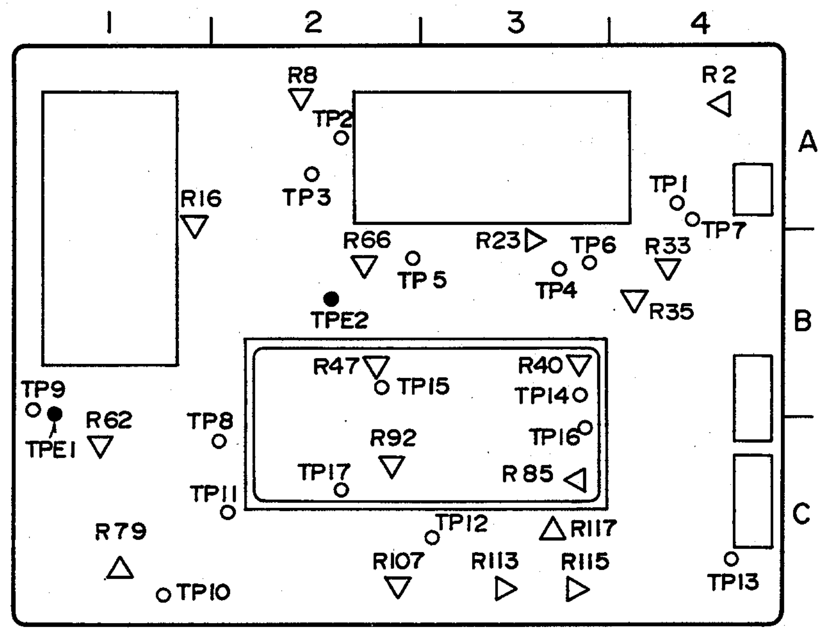
Y 2H DL 6 5


1
2
3
4
A
B
C
TP19
TP18
R144
R131
R124
TP15
TP13
TP12
TP16
R110
TP17
R117
R102
R103
TP14
R37
R34
TP9
TP10
TP11
TP2
TP20
TP6
TP5
TP4
TP3
R48
R40
TP22
R26
R95
R96
TP21
R17
TP8
TP1
R84
TP7
R62

TP	1	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Loc.	C4	B3	B3	B2	B2	B2	C4	B2	B4	B4	A4	A4	A3	A3	A2	A2	A2	A1	B1	C1	B2

R	17	26	34	37	40	48	62	84	95	96	102	103	110	117	124	131	144
Loc.	C2	B3	B3	B3	B2	B2	C3	C1	B4	B4	A4	A4	A3	A2	A3	A2	A2

CTC 6 3

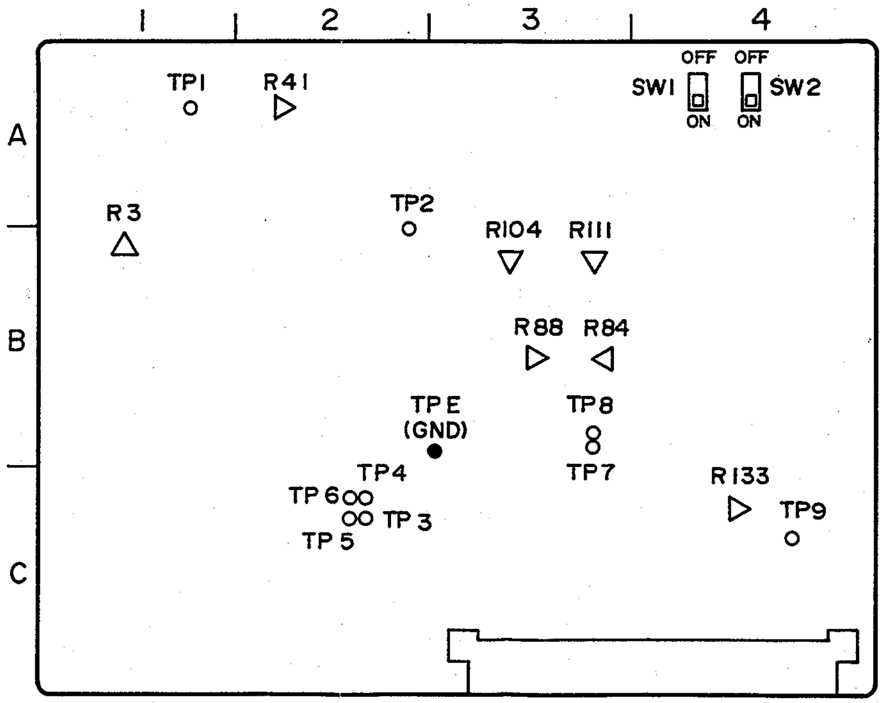

1
2
3
4
A
B
C
R8
TP2
R2
TP1
TP7
R16
TP3
R66
TP5
R23
TP6
R33
TP4
R35
TPE2
R47
TP15
R40
TP14
TP9
R62
TP8
TPE1
R92
TP16
TP17
R85
TP11
TP12
R117
R79
R107
R113
R115
TP10
TP13

TP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Loc.	A4	A2	A2	B3	B2	B3	A4	C2	B1	C1	C2	C3	C4	B3	B2	C3	C2

TPE	1	2
Loc.	B1	B2

R	2	8	16	23	33	35	40	47	62	66	79	85	92	107	113	115	117
Loc.	A4	A2	A1	B3	B4	B4	B3	B2	C1	B2	C1	C3	C2	C2	C3	C3	C3

PB Y 0 2

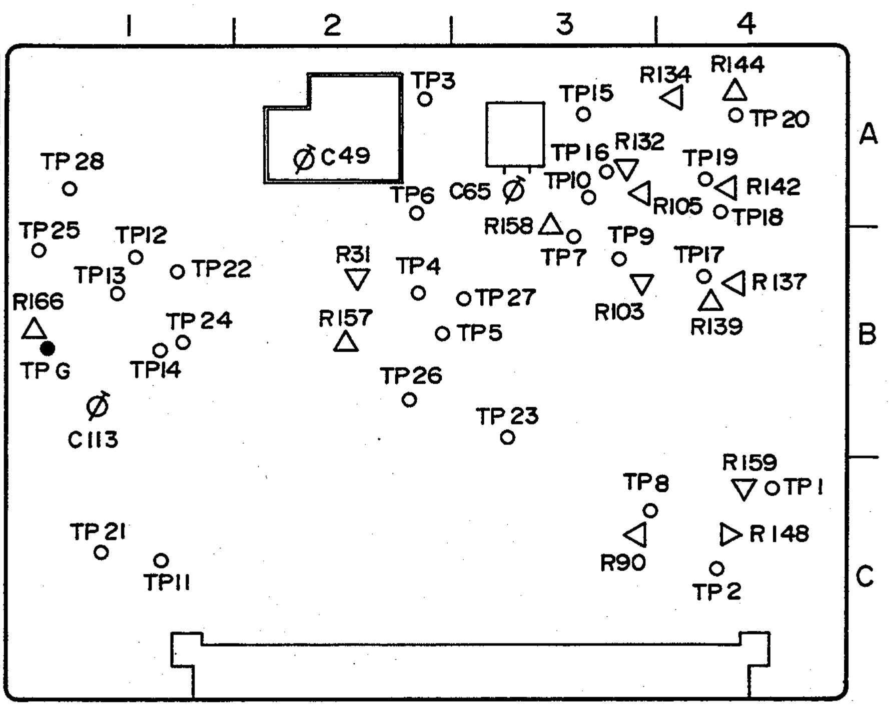

1
2
3
4
A
B
C
TP1
R41
SW1
OFF
ON
SW2
R3
TP2
R104
R111
R88
R84
TPE
(GND)
TP8
TP7
TP4
TP6
TP3
TP5
R133
TP9

TP	1	2	3	4	5	6	7	8	9	E
Loc.	A1	B2	C2	C2	C2	C2	B3	B3	C4	B3

R	3	41	84	88	104	111	133
Loc.	B1	A2	B3	B3	B3	B3	C4

SW	1	2
Loc.	A4	A4

PB C 0 3


1
2
3
4
A
B
C
TP3
C49
TP15
R134
R144
TP20
TP28
TP6
C65
TP16
R132
TP10
TP19
R142
R105
TP18
R158
TP25
TP12
TP22
R31
TP4
TP7
TP9
TP17
R137
TP13
R166
TP27
R103
TP24
R157
TP5
R139
TP G
TP14
TP26
C113
TP23
R159
TP1
TP8
TP21
R148
R90
TP11
TP2

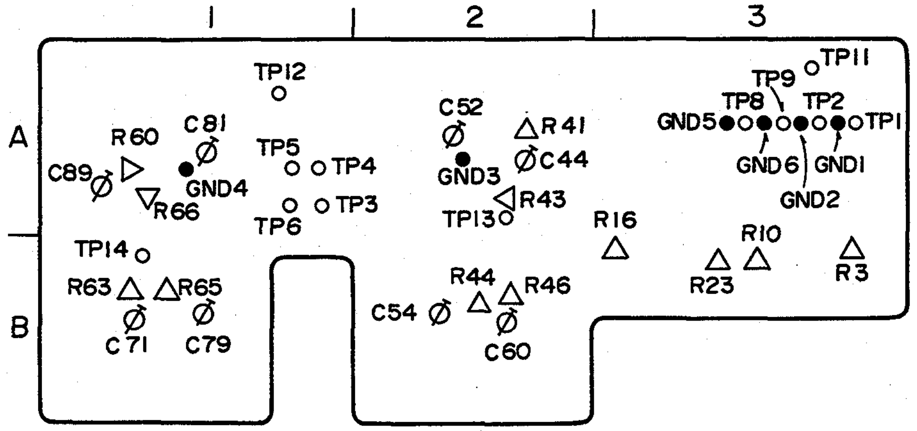
TP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Loc.	C4	C4	A2	B2	B2	A2	B3	C3	B3	A3	C1	B1	B1	B1	A3	A3	B4	A4	A4	A4	C1	B1	B3	B1	B1

TP	26	27	28	G
Loc.	B2	B3	A1	B1

R	31	90	103	105	132	134	137	139	142	144	148	157	158	159	166
Loc.	B2	C3	B3	A3	A3	A4	B4	B4	A4	A4	C4	B2	A3	C4	B1

C	49	65	113
Loc.	A2	A3	B1

VIDEO P/R AMP 0 5


1
2
3
A
B
TP12
C52
R41
TP9
TP11
TP8
TP2
GND5
TP1
R60
C81
C89
GND4
TP5
TP4
GND3
C44
GND6
GND1
GND2
R66
TP3
TP6
TP13
R43
R16
R10
TP14
R23
R3
R63
R65
R44
R46
C54
C71
C79
C60

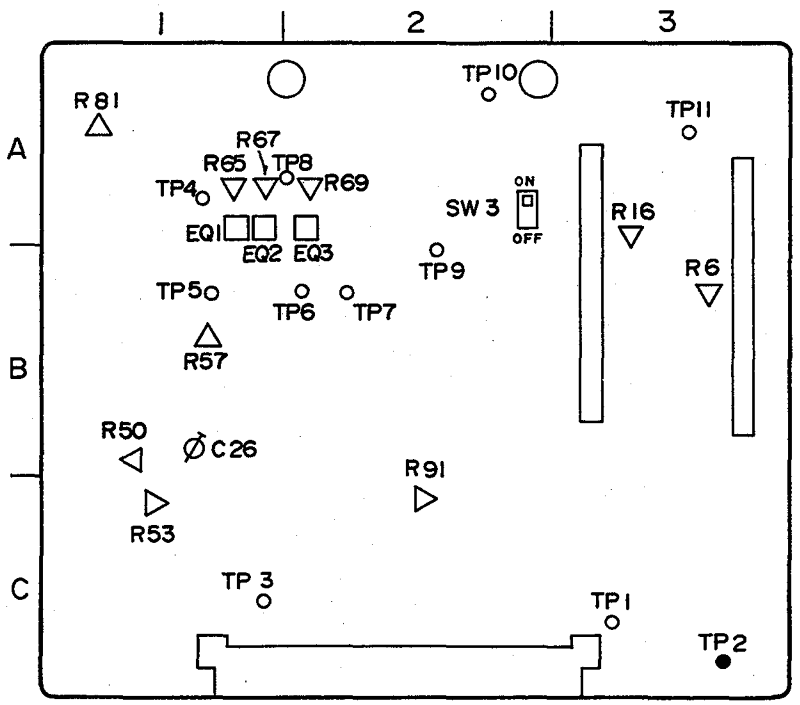
TP	1	2	3	4	5	6	8	9	11	12	14	13
Loc.	A3	A3	A1	A1	A1	A1	A3	A3	A3	A1	B1	A2

C	44	52	54	60	71	79	81	89
Loc.	A2	A2	B2	B2	B1	B1	A1	A1

R	3	10	16	23	41	43	44	46	60	63	65	66
Loc.	B3	B3	B3	B3	A2	A2	B2	B2	A1	B1	B1	A1

GND	1	2	3	4	5	6
Loc.	A3	A3	A2	A1	A3	A3

RF 2H DL & C ENH 3 7


1
2
3
A
B
C
TP10
R81
TP11
R67
R65
TP8
R69
TP4
ON
SW3
OFF
R16
EQ1
EQ2
EQ3
TP9
R6
TP5
TP6
TP7
R57
R50
C26
R91
R53
TP3
TP1
TP2

TP	1	2	3	4	5	6	7	8	9	10	11
Loc.	C3	C3	C1	A1	B1	B2	B2	A2	B2	A2	A3

EQ	1	2	3
Loc.	A1	A1	A2

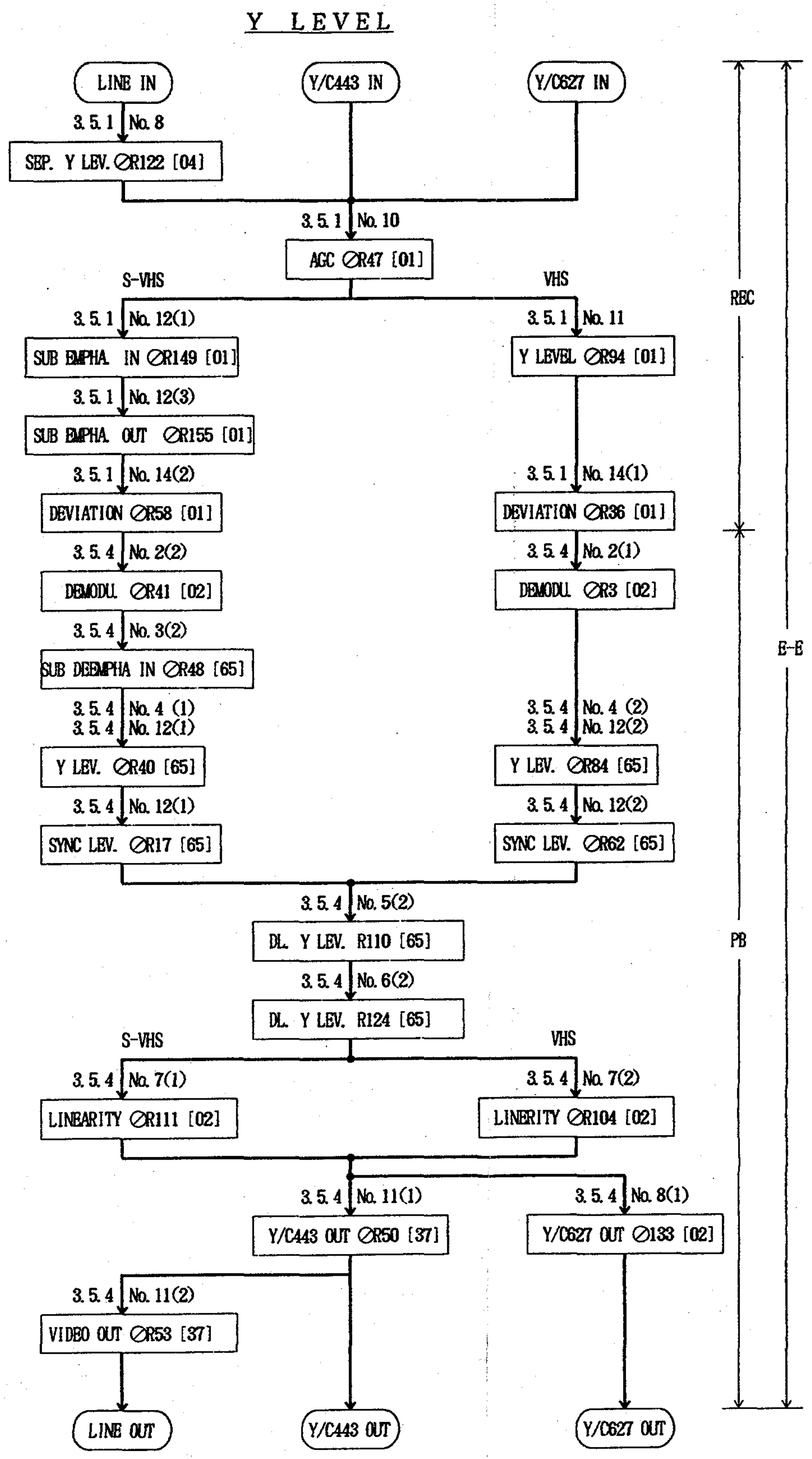
SW	3
Loc.	A2

R	6	16	50	53	57	65	67	69	81	91
Loc.	B3	A3	B1	C1	B1	A1	A1	A2	A1	C2

C	26
Loc.	B1

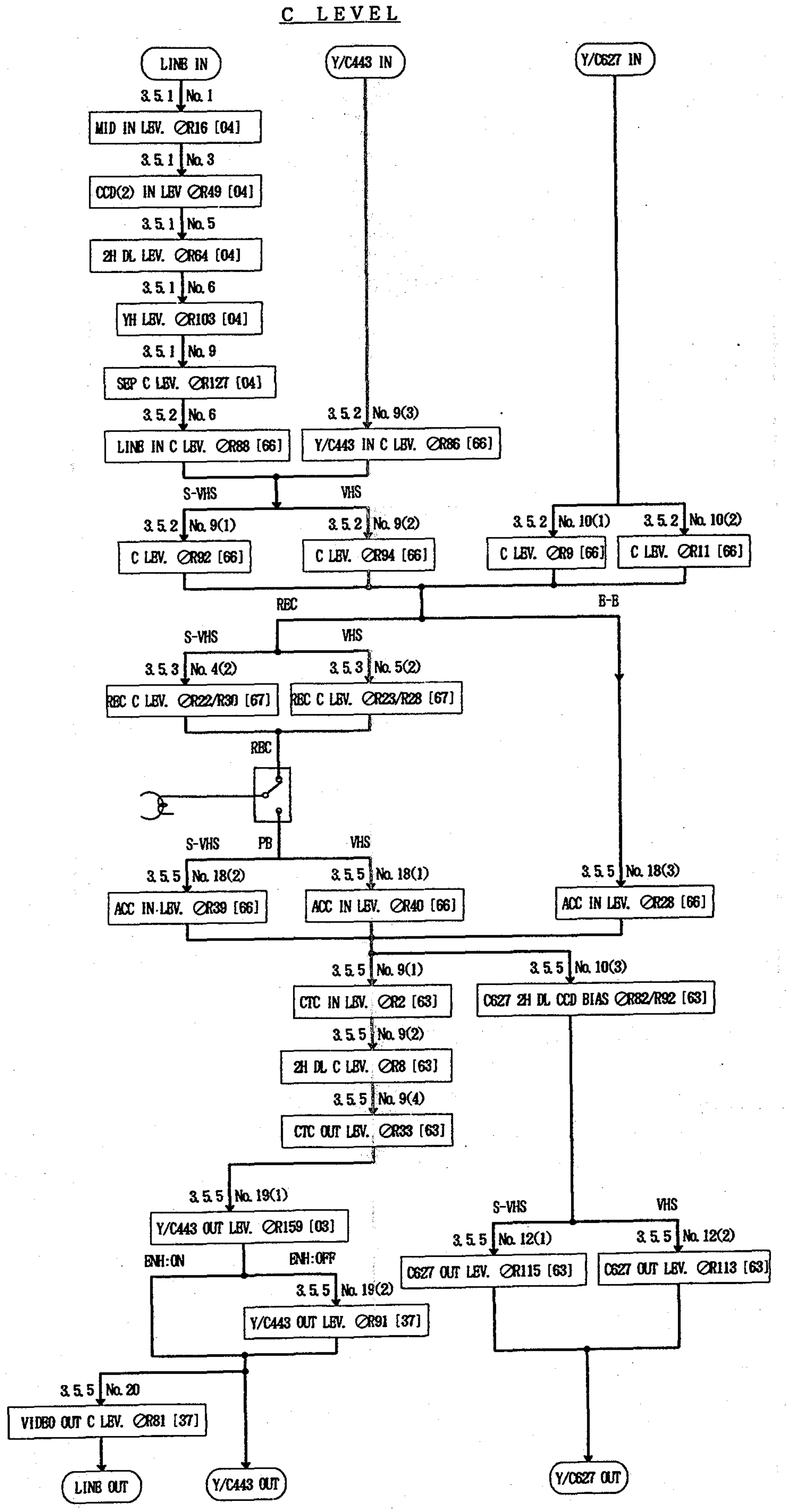
Y level adjustment

Following are the Y level controls for each mode.
Refer to these during adjustment.


Y LEVEL
LINE IN
Y/C443 IN
Y/C627 IN
3.5.1 No. 8
SEP. Y LEV. ∅R122 [04]
3.5.1 No. 10
AGC ∅R47 [01]
S-VHS
VHS
3.5.1 No. 12(1)
SUB EMPHA. IN ∅R149 [01]
3.5.1 No. 12(3)
SUB EMPHA. OUT ∅R155 [01]
3.5.1 No. 14(2)
DEVIATION ∅R58 [01]
3.5.4 No. 2(2)
DEMODU. ∅R41 [02]
3.5.4 No. 3(2)
SUB DEEMPHA IN ∅R48 [65]
3.5.4 No. 4 (1)
3.5.4 No. 12(1)
Y LEV. ∅R40 [65]
3.5.4 No. 12(1)
SYNC LEV. ∅R17 [65]
3.5.1 No. 11
Y LEVEL ∅R94 [01]
3.5.1 No. 14(1)
DEVIATION ∅R36 [01]
3.5.4 No. 2(1)
DEMODU. ∅R3 [02]
3.5.4 No. 4 (2)
3.5.4 No. 12(2)
Y LEV. ∅R84 [65]
3.5.4 No. 12(2)
SYNC LEV. ∅R62 [65]
3.5.4 No. 5(2)
DL. Y LEV. R110 [65]
3.5.4 No. 6(2)
DL. Y LEV. R124 [65]
S-VHS
VHS
3.5.4 No. 7(1)
LINEARITY ∅R111 [02]
3.5.4 No. 7(2)
LINERITY ∅R104 [02]
3.5.4 No. 11(1)
Y/C443 OUT ∅R50 [37]
3.5.4 No. 8(1)
Y/C627 OUT ∅133 [02]
3.5.4 No. 11(2)
VIDEO OUT ∅R53 [37]
LINE OUT
Y/C443 OUT
Y/C627 OUT
REC
E-E
PB

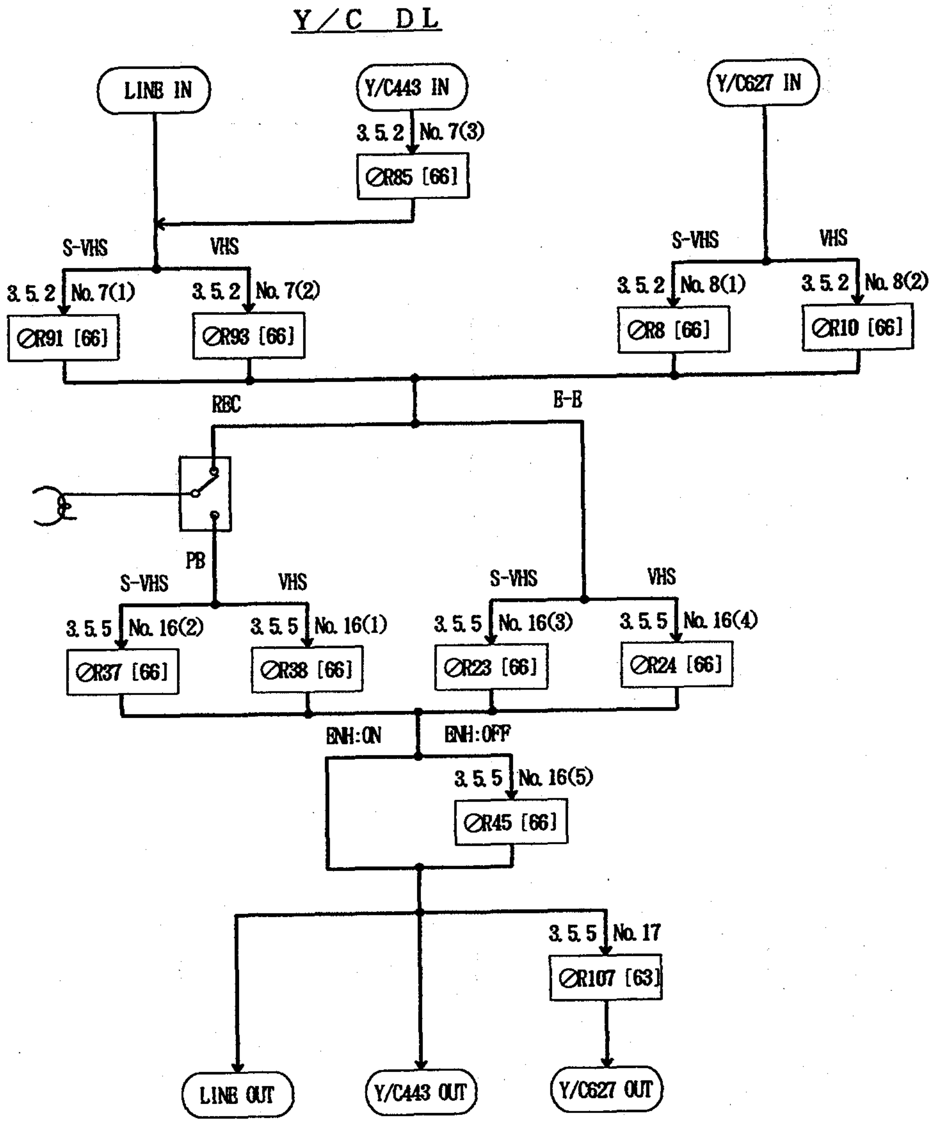
C level adjustment

Following are the colour level controls for each mode.


C LEVEL
LINE IN
Y/C443 IN
Y/C627 IN
3.5.1 No. 1
MID IN LEV. ⊘R16 [04]
3.5.1 No. 3
CCD(2) IN LEV ⊘R49 [04]
3.5.1 No. 5
2H DL LEV. ⊘R64 [04]
3.5.1 No. 6
YH LEV. ⊘R103 [04]
3.5.1 No. 9
SEP C LEV. ⊘R127 [04]
3.5.2 No. 6
LINE IN C LEV. ⊘R88 [66]
3.5.2 No. 9(3)
Y/C443 IN C LEV. ⊘R86 [66]
S-VHS
VHS
3.5.2 No. 9(1)
C LEV. ⊘R92 [66]
3.5.2 No. 9(2)
C LEV. ⊘R94 [66]
3.5.2 No. 10(1)
C LEV. ⊘R9 [66]
3.5.2 No. 10(2)
C LEV. ⊘R11 [66]
REC
E-E
S-VHS
VHS
3.5.3 No. 4(2)
REC C LEV. ⊘R22/R30 [67]
3.5.3 No. 5(2)
REC C LEV. ⊘R23/R28 [67]
REC
S-VHS
PB
VHS
3.5.5 No. 18(2)
ACC IN LEV. ⊘R39 [66]
3.5.5 No. 18(1)
ACC IN LEV. ⊘R40 [66]
3.5.5 No. 18(3)
ACC IN LEV. ⊘R28 [66]
3.5.5 No. 9(1)
CTC IN LEV. ⊘R2 [63]
3.5.5 No. 10(3)
C627 2H DL CCD BIAS ⊘R82/R92 [63]
3.5.5 No. 9(2)
2H DL C LEV. ⊘R8 [63]
3.5.5 No. 9(4)
CTC OUT LEV. ⊘R33 [63]
3.5.5 No. 19(1)
Y/C443 OUT LEV. ⊘R159 [03]
ENH:ON
ENH:OFF
3.5.5 No. 19(2)
Y/C443 OUT LEV. ⊘R91 [37]
S-VHS
VHS
3.5.5 No. 12(1)
C627 OUT LEV. ⊘R115 [63]
3.5.5 No. 12(2)
C627 OUT LEV. ⊘R113 [63]
3.5.5 No. 20
VIDEO OUT C LEV. ⊘R81 [37]
LINE OUT
Y/C443 OUT
Y/C627 OUT

Y/C delay adjustment

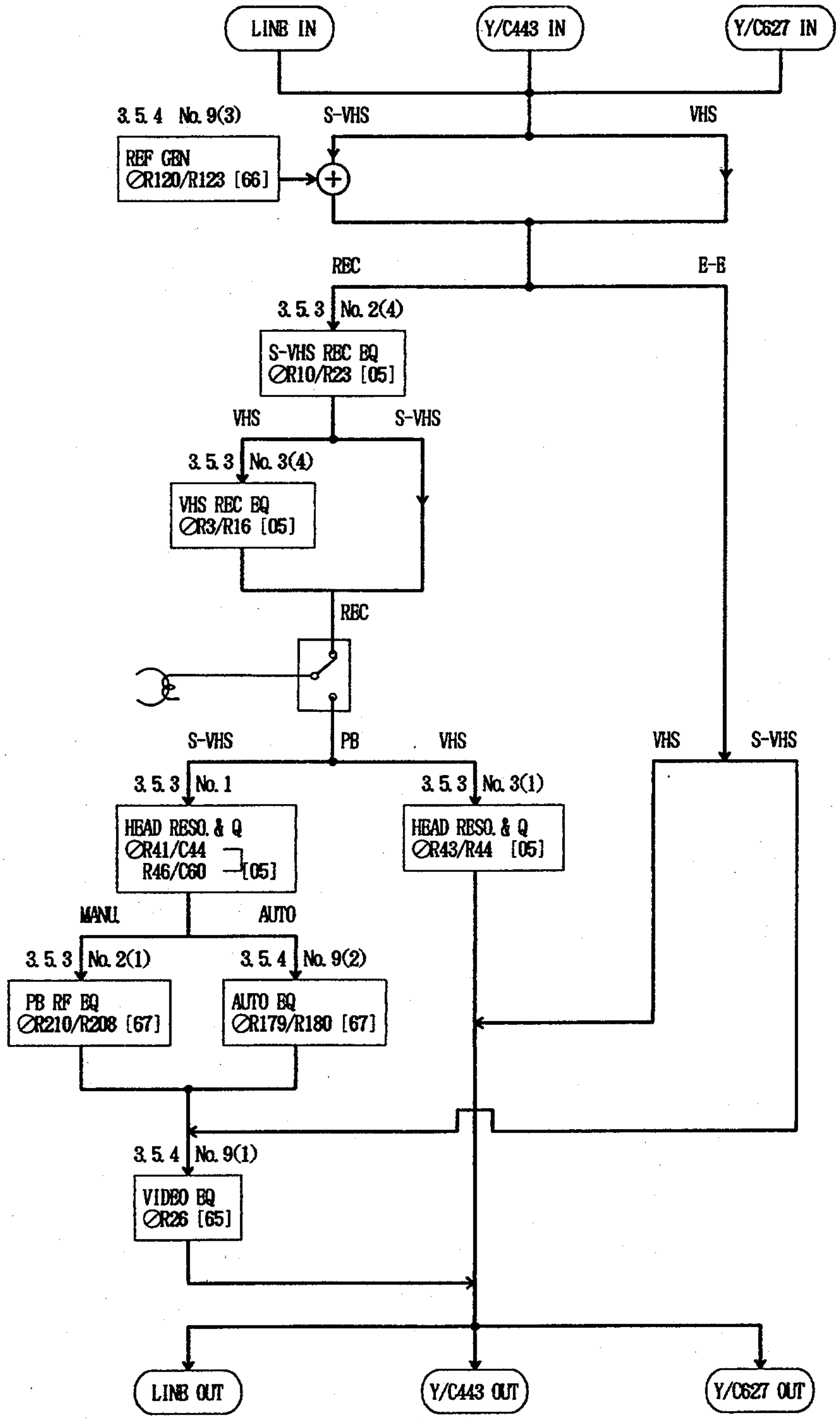
Following are the Y/C delay controls for each mode.


Y/C DL
LINE IN
Y/C443 IN
Y/C627 IN
3.5.2 No. 7(3)
⊘R85 [66]
S-VHS
VHS
3.5.2 No. 7(1)
⊘R91 [66]
3.5.2 No. 7(2)
⊘R93 [66]
S-VHS
VHS
3.5.2 No. 8(1)
⊘R8 [66]
3.5.2 No. 8(2)
⊘R10 [66]
REC
E-E
PB
S-VHS
VHS
S-VHS
VHS
3.5.5 No. 16(2)
⊘R37 [66]
3.5.5 No. 16(1)
⊘R38 [66]
3.5.5 No. 16(3)
⊘R23 [66]
3.5.5 No. 16(4)
⊘R24 [66]
ENH:ON
ENH:OFF
3.5.5 No. 16(5)
⊘R45 [66]
3.5.5 No. 17
⊘R107 [63]
LINE OUT
Y/C443 OUT
Y/C627 OUT

Frequency responce adjustment

Following are the freq. responce controls for each mode.

FREQUENCY


LINE IN
Y/C443 IN
Y/C627 IN
3.5.4 No.9(3)
S-VHS
VHS
REF GEN
⌀R120/R123 [66]
REC
E-E
3.5.3 No.2(4)
S-VHS REC EQ
⌀R10/R23 [05]
VHS
S-VHS
3.5.3 No.3(4)
VHS REC EQ
⌀R3/R16 [05]
REC
S-VHS
PB
VHS
VHS
S-VHS
3.5.3 No.1
HEAD RESO. & Q
⌀R41/C44
R46/C60
[05]
3.5.3 No.3(1)
HEAD RESO. & Q
⌀R43/R44 [05]
MANU.
AUTO
3.5.3 No.2(1)
3.5.4 No.9(2)
PB RF EQ
⌀R210/R208 [67]
AUTO EQ
⌀R179/R180 [67]
3.5.4 No.9(1)
VIDEO EQ
⌀R26 [65]
LINE OUT
Y/C443 OUT
Y/C627 OUT

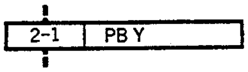
SECTION 4
DIAGRAMS AND CIRCUIT BOARDS

■ FOREWORD

1. Expression of connector

Connector is expressed in two ways.

1) The following illustrates 'CN2 pin 1' for example.



2) The following illustrates 'CN1 pins 1 and 2'.

CN1
1
2
[1][2] CN2
SYSCON

2. Expression of wiring

As the following circuit diagram is divided to print on some sheets, such an indication as the following is found in the case the wiring extends over two or more divided sections.

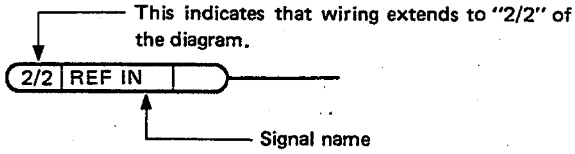
1) Circuit diagram divided into two or more sections:

Board No.	Board Name	Number of divided sections
07	FM AUDIO	2 (1/2 – 2/2)
09	V. ERS & FMA PRE	2 (1/2 – 2/2)
10	SERVO 1	2 (1/2 – 2/2)
12	SYSCON	2 (1/2 – 2/2)
14	DRIVER	3 (1/3 – 3/3)
67	FM R/P	2 (1/2 – 2/2)
–	OVERALL	2 (1/2 – 2/2)

2) Indication of wiring which extends to another section:

(Example)

On the "1/2" diagram of SERVO-1 board, such an indication as the follwing is found on the "REF IN" signal line.



In the above case, the end of the wiring is connected to the "2/2 REF IN" on the 2nd section of the diagram.

3. Wiring of connector

(Example)

CN1
1
2
[1][2] CN2
SYSCON

In the above example, CN1 is connected with CN2 on [1][2] SYSCON board.

- When connector is connected to [1][6] MOTHER board, its further connection (Board No. and Symbol No. of the other connector) is shown in the "Wiring Table".

4. Signal flow on the diagram

The following arrow marks indicate the specified signal paths respectively.

➡ : RECORDING or EE signal path
⇨ : PLAYBACK signal path
➩ : REC/PLAY signal path

On diagrams of the video system, signal flow is shown in different color by mode.

	Mode	Line indicating signal flow
LINE IN	S-VHS	BLUE line
	VHS only	Dotted BLUE line
Y/C 627 IN /OUT only	S-VHS	RED line
	VHS only	Dotted RED line

Note: Where blue line falls on other line(s), the line is colored in blue.
Where red line falls on dotted green line, the line is straight in red.

5. Measurement of voltage and waveform

1) Voltage
   Measured by digital voltmeter in REC mode.
   Value in ( ) shows voltage in S-VHS PB mode, and it is indicated only in the case PB voltage is different from that in REC.
2) Waveform
   Video: Unless otherwise indicated, (a) colour bars signal input through LINE IN terminal.
   Audio: (a) 1 kHz/–6 dBm sine wave in REC, (b) 1 kHz segment of alignment tape in PB.

6. Unit of value

Unless otherwise specified:

1) Resistance is in Ω (1/6 W)
2) Capacitance in μF
3) Inductance in μH
4) Screened parts (in ▨) are important for safety assurance. When replacing them, use specified parts.

4.1 KEY TO ABBREVIATIONS

A	ACC	: Automatic Color Control
	ADD	: Adder
	ADC	: Analog to Digital Converter
	ADJ	: Adjustment
	A DUB	: Audio Dubbing
	AE	: Audio Erase
	AEF	: Automatic Edition Function
	AFC	: Automatic Frequency Control
	AFT	: Automatic Fine Tuning
	AGC	: Automatic Gain Control
	AH	: Audio Head
	AL	: After Loading
	ALC	: Automatic Level Control
	ALM	: Alarm
	AM	: Amplitude Modulation
	AMP	: Amplifier
	ANT	: Antenna
	APC	: Automatic Phase Control
	APL	: Average Picture Level
	ASSEM	: Assembly
	ASS'Y	: Assembly
	ATT	: Attenuator
	AUTO	: Automatic
	AUX	: Auxiliary
	AUD	: Audio
B	B	: Brake
	BAL	: Balance
	BATT	: Battery
	BCD	: Binary Coded Decimal
	BEG	: Beginning
	BFP	: Burst Flag Pulse
	BIT	: Binary Digit
	BLK	: Black
	BLU	: Blue
	BNC	: Bayonet connector
	BPF	: Bandpass Filter
	BRN	: Brown
	BRT	: Brightness
	B. SOL	: Brake Solenoid
	B/W	: Black and White
C	C	: Ceramic
	CAP	: Capstan
	CASS	: Cassette
	CF	: Ceramic Filter, color Frame
	CC	: Cassette compartment
	CE	: Chip Enable
	CH	: Channel
	CHROMA	: Chrominance
	CLK	: Clock
	CLR	: Clear
	CMD	: Command
	CNT	: Count, Counter
	CONV	: Converter
	COL	: Color
	COM	: Common
	COMP	: Comparator Composite Compensation
	CONN	: Connector
	CT	: Ceramic Trap
	CTC	: Crosstalk Cancel
	CTL	: Control
D	D	: Drum
	DAC	: Dightal to Analog Converter
	DD	: Direct Drive
	DEC	: Decoder
	DEMOD	: Demodulator
	DET	: Detector
	DEV	: Deviation
	DFR STOP	: Drum Free RUN STOP
	DIF TRANS	: Differential Transformer
	DISCR	: Discriminator
	DL	: Delay Line
	DOC	: Dropout Compensator
	DRUM FF	: Drum Flip Flop
	DUB	: Dubbing
E	E	: Edit, Erase
	EDP	: Electronic Data Processing
	E-E	: Electric to Electric
	EF	: Emitter-Follower
	EMPHA	: Emphasis
	EMG	: Emergency
	ENC	: Encoder
	EN	: Enable
	EQ	: Equalizer
	ESNS	: End Sensor
	EXP	: Expander
	EXT	: External
F	FE	: Full Erase
	FF	: Fast Forward Flipflop
	FG	: Frequency Generator
	FM	: Frequency Modulation
	FMA	: FM Audio
	FREQ	: Frequency
	F-V CONV	: Frequency to Voltage Converter
	FWD	: Forward
G	GDL	: Grass Delay Line
	GEN LOCK	: Generator Lock
	GND	: Ground
	GRN	: Green
	GRY	: Gray
H	H	: High, Horizontal
	HG	: Hall Generator
	HPF	: Highpass Filter

I	IF	: Intermediate Frequency
	IFT	: Intermediate Frequency Transformer
	IND	: Indicator
	INH	: Inhibit
	INS	: Insert
	INT	: Internal, Interrupt
	INV	: Inverter
	I/O	: Input/Output
L	L	: Low
	LB	: Low Band
	LCD	: Liquid Crystal Display
	LE	: Loading End
	LED	: Light Emitting Diode
	LIN	: Linearity
	LIM	: Limiter
	LOAD	: Loading
	LP	: Long Play
	LPF	: Lowpass Filter
	LT	: Loading Tension
M	MAX	: Maximum
	MDA	: Motor Drive Amplifier
	MIC	: Microphone
	MIN	: Minimum
	MIX	: Mixer
	MM	: Monostable Multivibrator
	MOD	: Modulator
	MON	: Monitor
	MOS	: Metal Oxide Semkonduktor
	MPX	: Multiplexer
	MS	: Mode Select
	MUT	: Muting
N	NC	: Noise Cancel
	NFB	: Negative Feedback
	NO	: Normally Open
O	OPAMP	: Operational Amplifier
	OP	: Operation
	ORN	: Orange
	OSC	: Oscillator
P	PB	: Playback
	PC	: Photocoupler
	PCM	: Pulse Code Modulation
	PGM	: Program
	PG	: Pulse Generator
	PI	: Photo Interrupter
	PLL	: Phase Locked Loop
	POS	: Position
	PR	: Pinch Roller
	PREV	: Preview
	PRL	: Preroll
	PU	: Pickup
	PWB	: Printed Wiring Board
Q	Q	: Quality Factor
R	RA	: Resistor Array
		: Random Access
	RAM	: Random Access Memory
	REC	: Recording
	REG	: Regulated
	REV	: Reverse
	REW	: Rewind
	RF	: Radio Frequency
	RST	: Reset
	R/P	: Record/Playback
	RPT	: Repeat
	RT	: Rotary Transformer
	RY	: Relay
S	S	: Search, Servo
	SC	: Subcarrier
	SEAR	: Search
	SEL	: Select
	SENS	: Sensor
	SEP	: Separator
	SF	: Source Follower
	SFF	: Short Fast Forward
	SFWD	: Search Forward
	SI	: Serial In
	SIG	: Signal
	SO	: Serial Out
	SOL	: Solenoid
	SOS	: Sound on Sound
	SP	: Standard Play
	SR	: Supply Reel
	SREV	: Search Reverse
	SREW	: Short Rewind
	SSG	: Sync Signal Generator
	STL	: Still
	SUP	: Supply
	SYNC	: Synchronization
	SYSCON	: System control
T	TBC	: Time Base Corrector
	TC	: Tension Control, Time Code
	TDG	: Time Date Generator
	T. EALM	: Tape End Alarm
	TEN	: Tension
	TIM	: Timing
	TK	: Tracking
	TL	: Time Lapse
	TREC	: Timer Record
	TSW	: Time Switch
	TU	: Take-up
	TUR	: Take-up Reel
U	UNLD	: Unloading
	UNREG	: Unregulated
	UNSW	: Unswitched
V	V	: Video, Vertical
	VCO	: Voltage Controlled Oscillator
	VD	: Vertical Drive
	VXO	: Variable Crystal Oscillator
	VLT	: Violet
	VSCH	: Variable Search
W	WHT	: White
	WV	: Working Voltage
	WARN	: Warning
X	XTL	: Crystal
Y	Y	: Luminance
	YLW	: Yellow

4.2 REPLACING SUBMINIATURE "CHIP" PARTS

1. General description

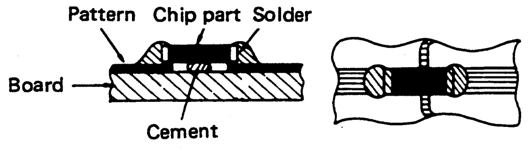
Some of resistors, variable resistors, shorting jumpers (0 Ω resistors), ceramic capacitors, transistors, diodes are chip parts. Those removed once cannot be used again.

2. Replacement of chip parts

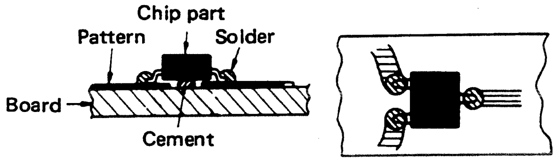
Replacement of chip parts should be performed as follows. Use a soldering iron (17 W for 260–30°C approx.) that has sharp-pointed tip and high performance in insulation. It is more convenient to use a soldering iron with solder absorber (55 W approx.).

(1) Soldered condition of chip parts

- Resistors, capacitors, etc.



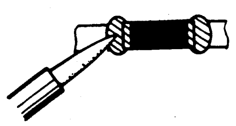
- Transistors, diodes, etc.



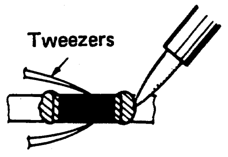
(2) Removing of chip parts

- Resistors, capacitors, etc.

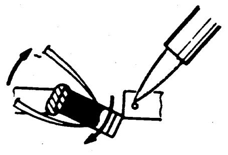
i) Melt solder at a side.



ii) Holding the chip with tweezers, melt solder at the other side.

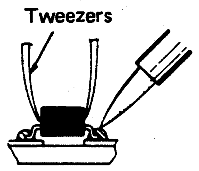


iii) Take off the chip in twisting and sliding motion.

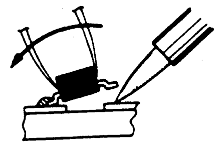


- Transistors, diodes, etc.

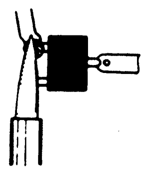
i) Melt solder at the side of single lead.



ii) Lift the unsolderd side upwards.



iii) Simultaneously melt solder at two leads of the other side and pull up the chip.

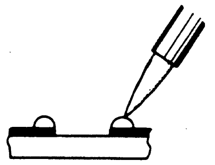


(3) Preheating and soldering of chip parts

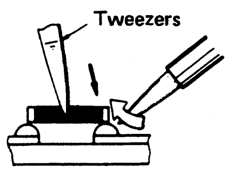
Except transistors, make sure to preheat all chip parts, capacitors in particular, with a hot wind of 150°C approx. (of a hair dryer, etc.) for 2 minutes just before soldering, and immediately solder by a soldering iron of approx. 30 W.

(4) Attaching of chip parts

i) Heap up a proper amount of solder beforehand.



ii) Holding down a new chip by tweezers, solder it to the board by a soldering iron to melt solder from its lower part to the upper part (in the direction shown by a big arrow).



Note:
- Don't heat chip parts over 3 seconds.
- Don't rub electrodes.
- Don't use chip parts which were once removed.
- No cement is required.

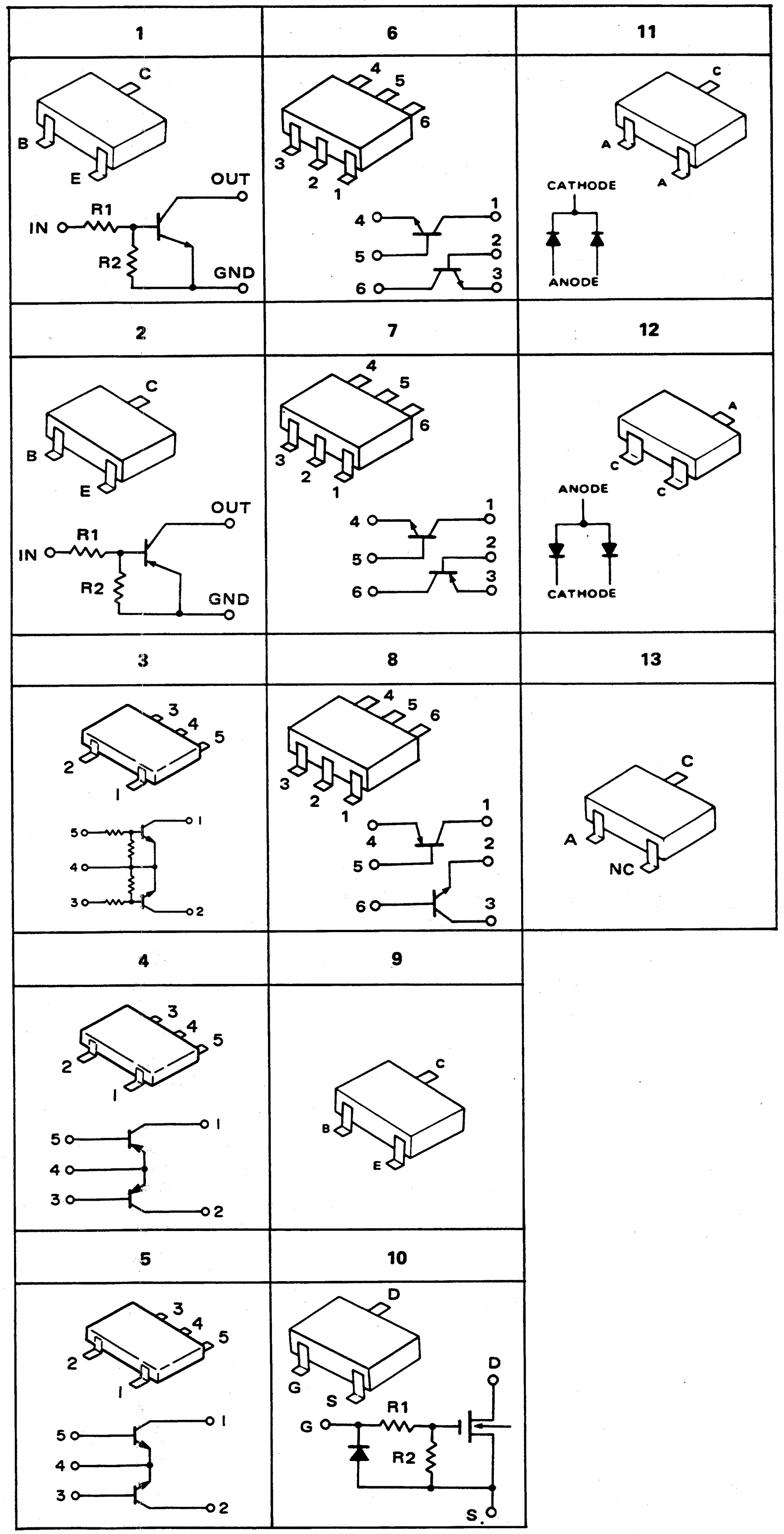
3. Shapes of transistors & diodes

- **Transistors**

DTA124EK	2
DTA144EK	2
DTC114EK	1
DTC114YK	1
DTC144EK	1
DTC144EU	1
FMG2	3
FMS1	4
FMW1	5
IMX1	6
IMZ1	7
IMZ2	8
2SA1022C	9
2SB709	9
2SC2412K	9
2SC2778	9
2SC4081	9
2SD601/A	9
2SD602/A	9
2SK621	10

- **Diodes**

DAN202K	11
DAP202K	12
MA28WA	13
MA3056	13
MA3075	13

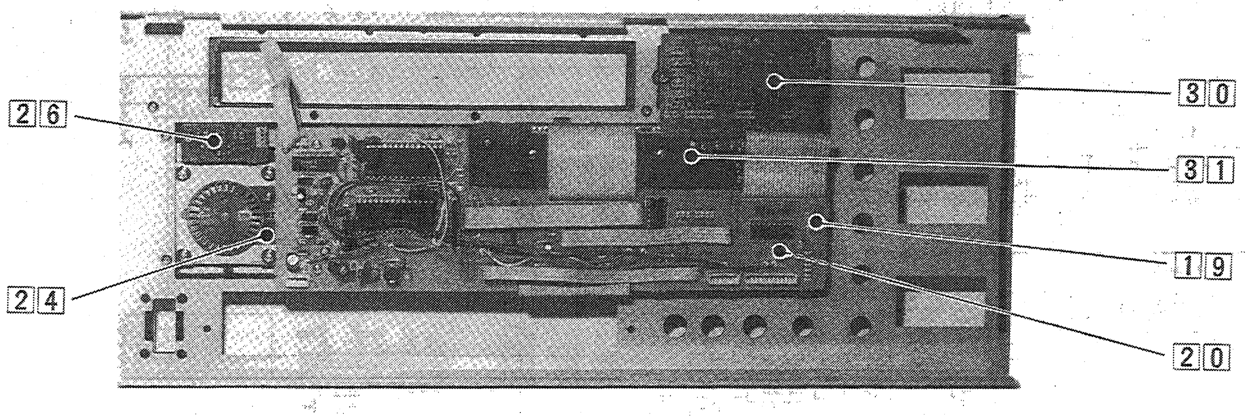


4.3 CIRCUIT BOARD LOCATIONS

- **Index to board by kind of diagram**

Board No.	Board Name	Page of diagram			
		Block diagram	Schematic diagram	Circuit board	Parts List
01	REC Y	4-6, 4-7	4-26	4-27	6-6
02	PB Y	4-6, 4-13	4-38	4-39	6-9
03	PB COLOR	4-6, 4-15	4-42	4-43	6-12
04	Y/C SEPARATOR	4-6, 4-8	4-28	4-29	6-16
05	VIDEO PRE/REC AMP	4-6, 4-12	4-36	4-37	6-18
06	FULL ERASE	—	4-97, 4-99	4-95	6-20
07	FM AUDIO	4-18, 4-19	4-51, 4-52	4-53	6-20
08	NORMAL AUDIO	4-19	4-54	4-55	6-25
09	VIDEO ERASE/FM AUDIO PREAMP	4-18	4-56, 4-57	4-57	6-29
10	SERVO 1	4-20	4-58, 4-59, 4-61	4-62	6-30
11	SERVO 2	4-21	4-64	4-65	6-37
12	SYSCON	4-24	4-72, 4-73	4-74, 4-75	6-40
13	END SENSOR	—	4-97, 4-99	4-95	6-42
14	DRIVER	4-24	4-76, 4-77, 4-78	4-79	6-42
15	LED	—	4-97, 4-99	4-95	6-44
16	MOTHER (BR-S611E)	—	4-92	4-94	6-44
	MOTHER (BR-S811E)	—	4-93	4-94	6-44
17	REGULATOR	4-25	4-80	4-81	6-45
18	CASSETTE HOUSING	—	4-97, 4-99	4-95	6-46
19	OPERATION 1 (BR-S611E)	4-24	4-82	4-85	6-46
	OPERATION 1 (BR-S811E)	4-24	4-83	4-85	6-46
20	OPERATION 2	4-24	4-84	4-85	6-47
21	TERMINAL	—	4-96, 4-98	4-95	6-48
22	SELECT SWITCH	4-19, 4-24	4-86	4-87	6-48
23	VR	4-19	4-96, 4-98	4-95	6-48
24	JOG	4-24	4-89	4-89	6-48
26	DIRECTION LED	—	4-84	4-85	6-48
27	LD/UNLD SWITCH	—	4-97, 4-99	4-95	6-48
28	45P CONNECTOR	4-24	4-88	4-89	6-49
29	REAR	4-19	4-49	4-50	6-50
30	FRONT LED	4-19	4-86	4-87	6-52
31	COUNTER	4-24	4-84	4-85	6-53
33	BRUSH (BR-S811E)	—	4-98	—	5-20
35	A/C HEAD	—	4-96, 4-98	4-95	6-53
36	CF SERVO (BR-S611E)	4-22	4-66	4-67	6-56
	CF SERVO (BR-S811E)	4-23	4-68	4-69	6-53
	AUTO H PHASE (BR-S811E)	4-20	4-70	4-71	6-55
37	RF DELAY/C ENHANCER	4-6, 4-17	4-46	4-47	6-56
38	PICK OUT DETECTOR	—	4-97, 4-99	4-95	6-58
39	CONNECTED	4-19	4-96, 4-98	4-95	6-58
40	SERVO 1 SUB	4-20	4-63	4-63	6-35
41	POWER TRANSISTOR	4-25	4-80	4-81	6-59
51	HEADPHONE VR	4-19	4-91	4-91	6-59
52	HEADPHONE	4-19	4-91	4-91	6-59
53	L CH MIC JACK	4-19	4-91	4-91	6-59
54	R CH MIC JACK	4-19	4-91	4-91	6-59
55	JACK	4-19	4-91	4-91	6-59
63	CROSS TALK CANCEL	4-6, 4-16	4-44	4-45	6-60
65	Y 2H DELAY	4-6, 4-14	4-40	4-41	6-62
66	REC COLOUR	4-6, 4-9	4-30	4-31	6-65
67	FM REC/PB	4-6, 4-10	4-32	4-33	6-69
	FREQ. AUTO	4-6, 4-11	4-34	4-35	6-72
71	VIDEO CONNECTOR	4-6	4-90	4-90	6-73
72	AUDIO CONNECTOR	4-19	4-48	4-50	6-73
73	TIME CODE CONNECTOR	4-19, 4-20	4-90	4-90	6-74
74	SUB REGULATOR	4-25	4-80	4-81	6-75

● FRONT PANEL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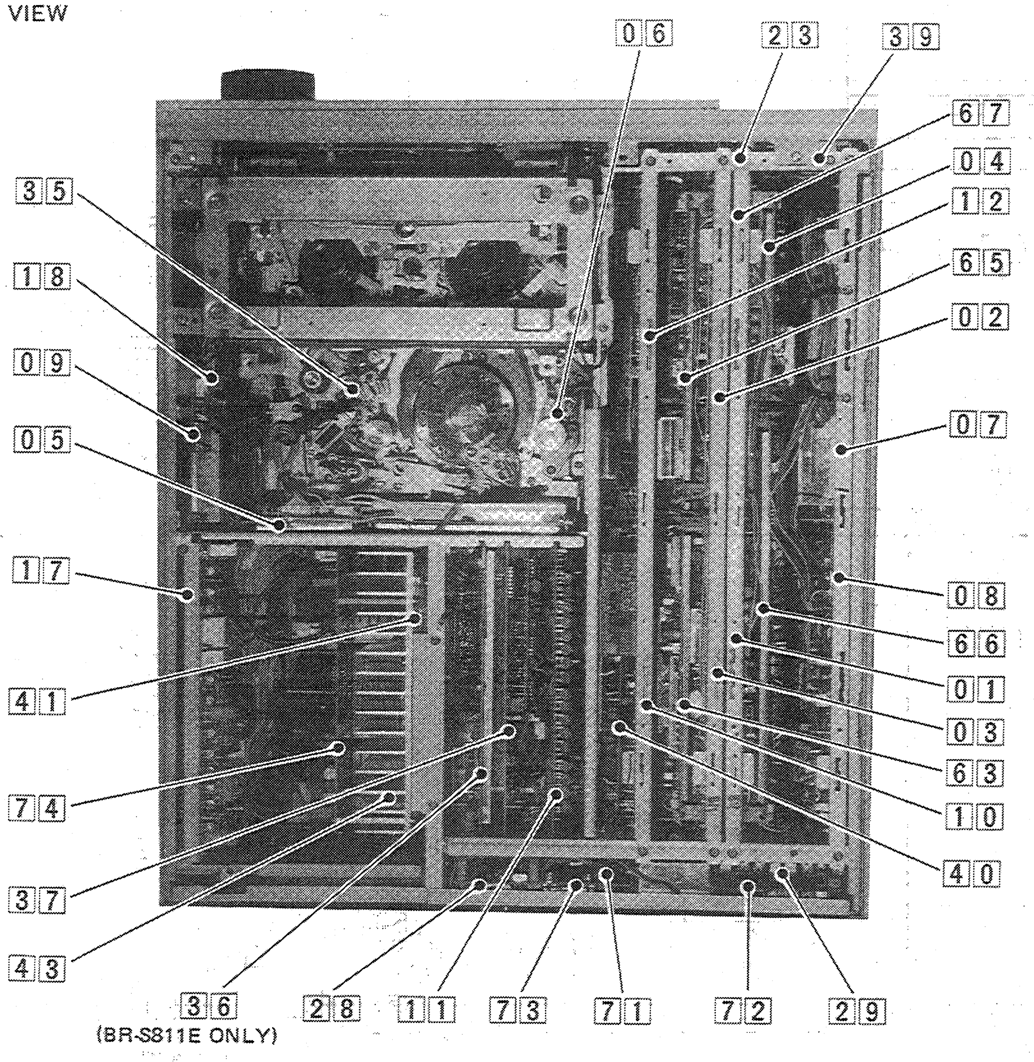
● TOP VIEW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(BR-S811E ONLY)
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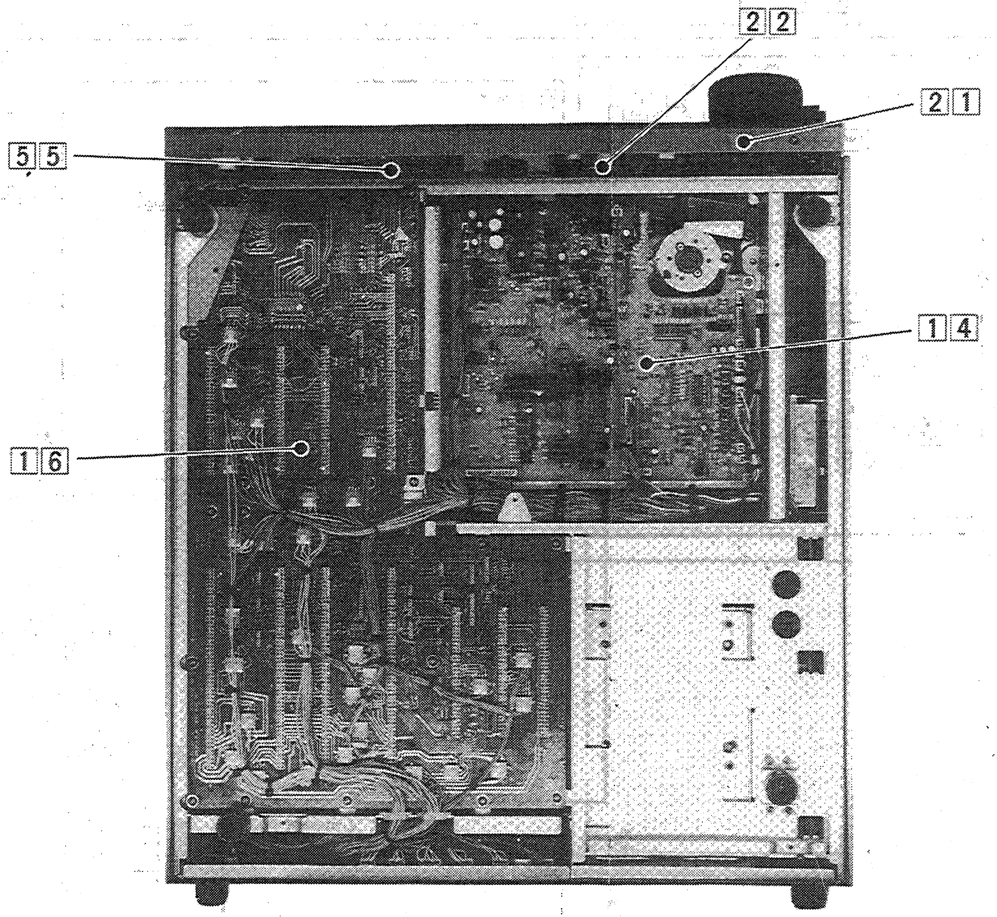
29

● BOTTOM VIEW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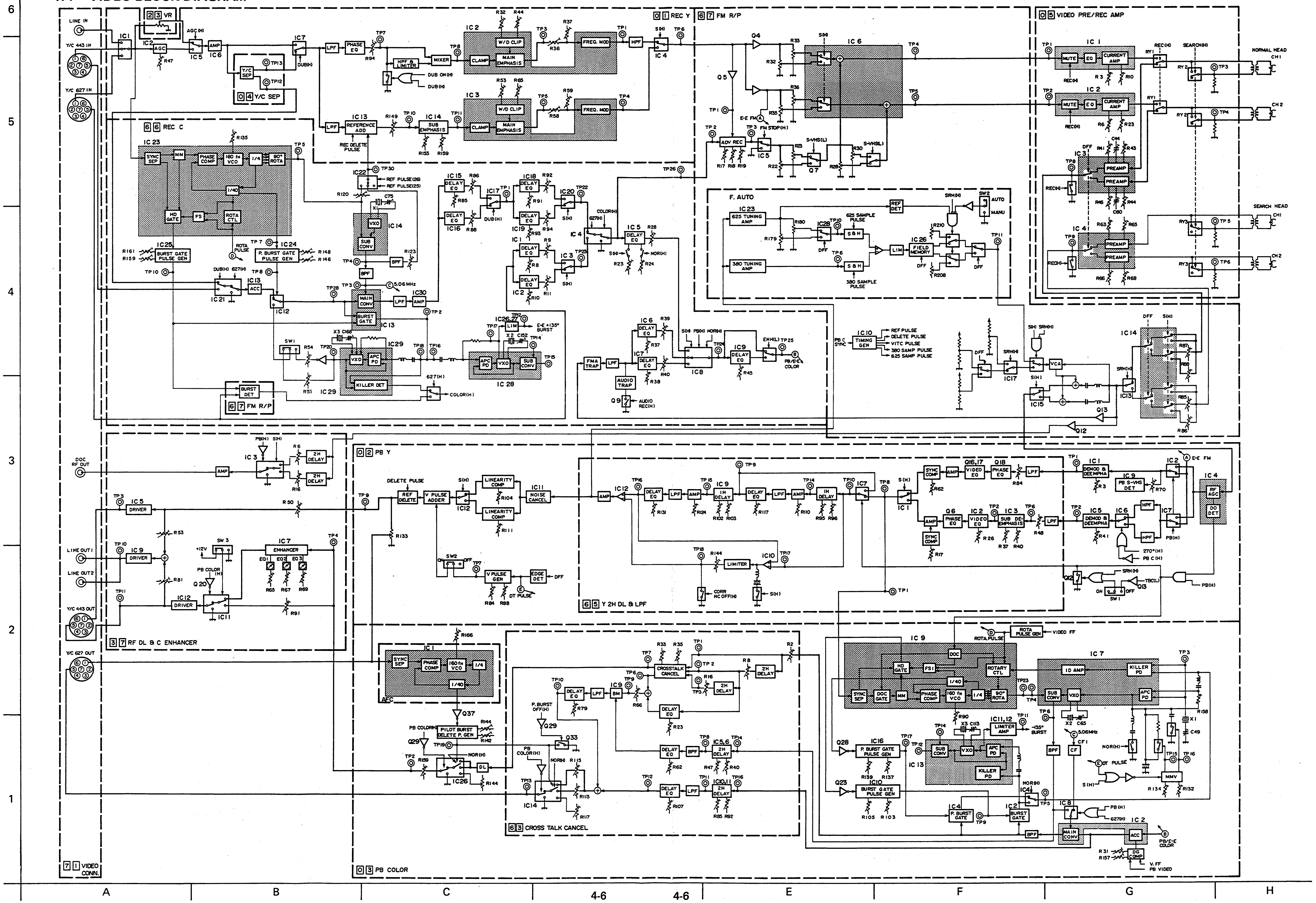
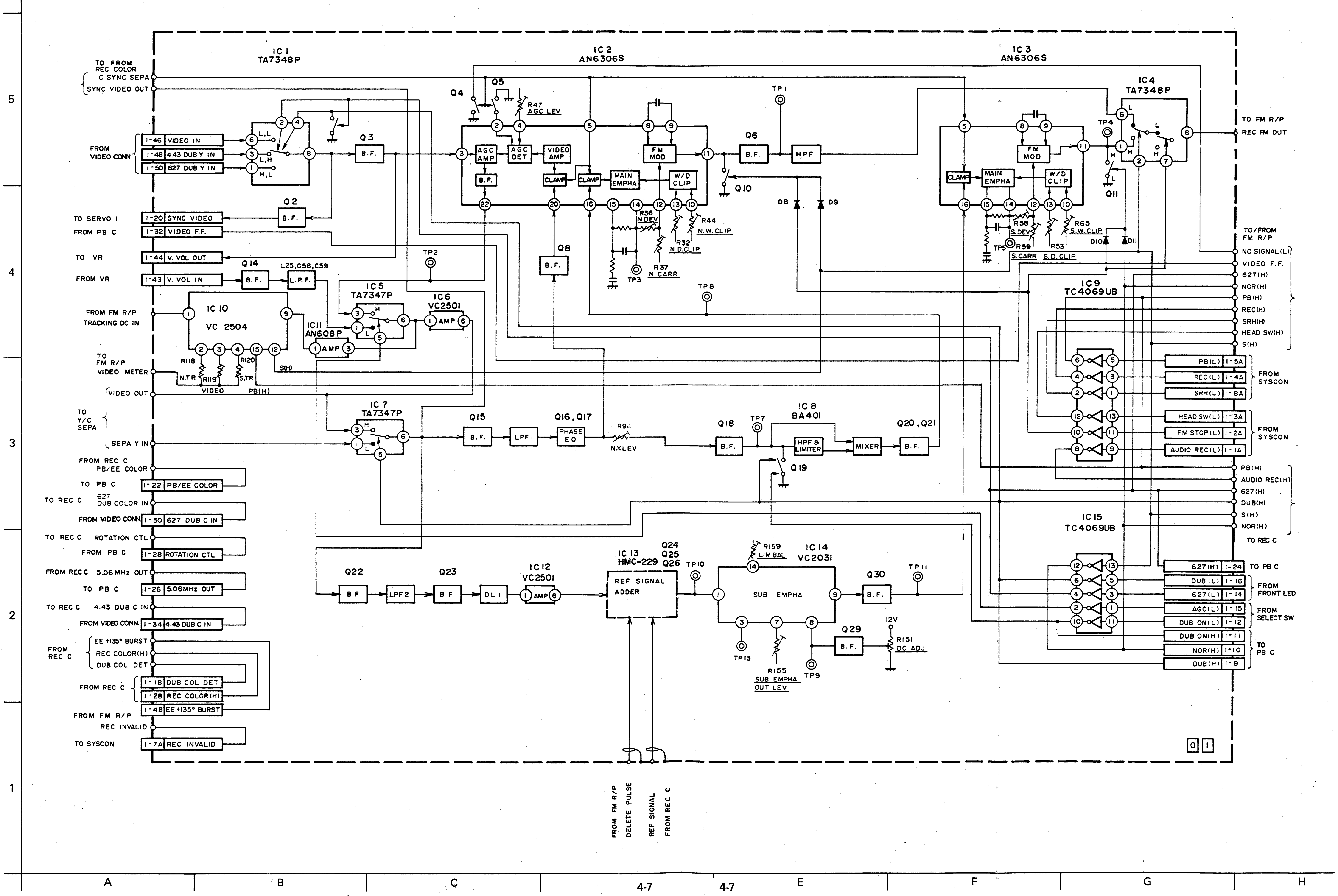
4.4 VIDEO BLOCK DIAGRAM



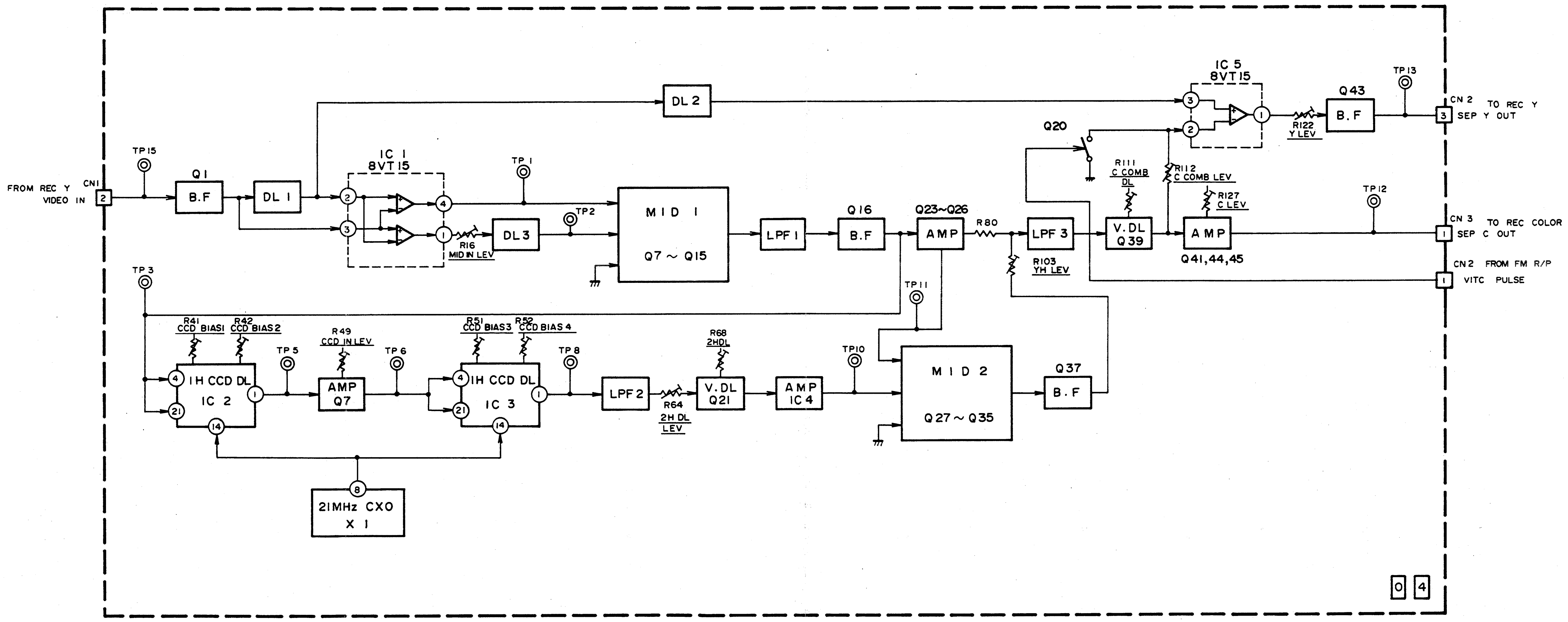
01 REC Y
67 FM R/P
05 VIDEO PRE/REC AMP
66 REC C
04 Y/C SEP
23 VR
F. AUTO
67 FM R/P
37 RF DL & C ENHANCER
02 PB Y
65 Y 2H DL & LPF
03 PB COLOR
63 CROSS TALK CANCEL
71 VIDEO CONN.
AFC
LINE IN
Y/C 443 IN
Y/C 627 IN
DOC RF OUT
LINE OUT1
LINE OUT2
Y/C 443 OUT
Y/C 627 OUT
NORMAL HEAD
CH1
CH2
SEARCH HEAD
CH1
CH2
W/D CLIP
MAIN EMPHASIS
FREQ. MOD
CLAMP
HPF & LIMITER
MIXER
PHASE EQ
LPF
REFERENCE ADD
SUB EMPHASIS
SYNC SEP
PHASE COMP
160 fH VCO
1/4
90° ROTA
1/40
HD GATE
FS
ROTA CTL
BURST GATE PULSE GEN
P. BURST GATE PULSE GEN
ACC
MAIN CONV
BURST GATE
SUB CONV
VXO
APC PD
KILLER DET
BURST DET
DELAY EQ
ADV REC
MUTE
EQ
CURRENT AMP
PREAMP
625 TUNING AMP
380 TUNING AMP
S & H
LIM
FIELD MEMORY
REF DET
TIMING GEN
REF PULSE
DELETE PULSE
VITC PULSE
380 SAMP PULSE
625 SAMP PULSE
FMA TRAP
AUDIO TRAP
VCA
DRIVER
ENHANCER
2H DELAY
REF DELETE
V PULSE ADDER
LINEARITY COMP
NOISE CANCEL
V PULSE GEN
EDGE DET
1H DELAY
LIMITER
SYNC COMP
VIDEO EQ
SUB DE-EMPHASIS
DEMOD & DEEMPHA
PB S-VHS DET
RF AGC
DO DET
CROSSTALK CANCEL
BM
PILOT BURST DELETE P. GEN
DL
ROTA PULSE GEN
DOC
FSI
ROTARY CTL
ID AMP
KILLER PD
LIMITER AMP
MMV
DG COMP
P. BURST GATE
BURST GATE
BPF
CF
AGC
AMP
A B C 4-6 4-6 E F G H
1 2 3 4 5 6

4.5 REC Y BLOCK DIAGRAM

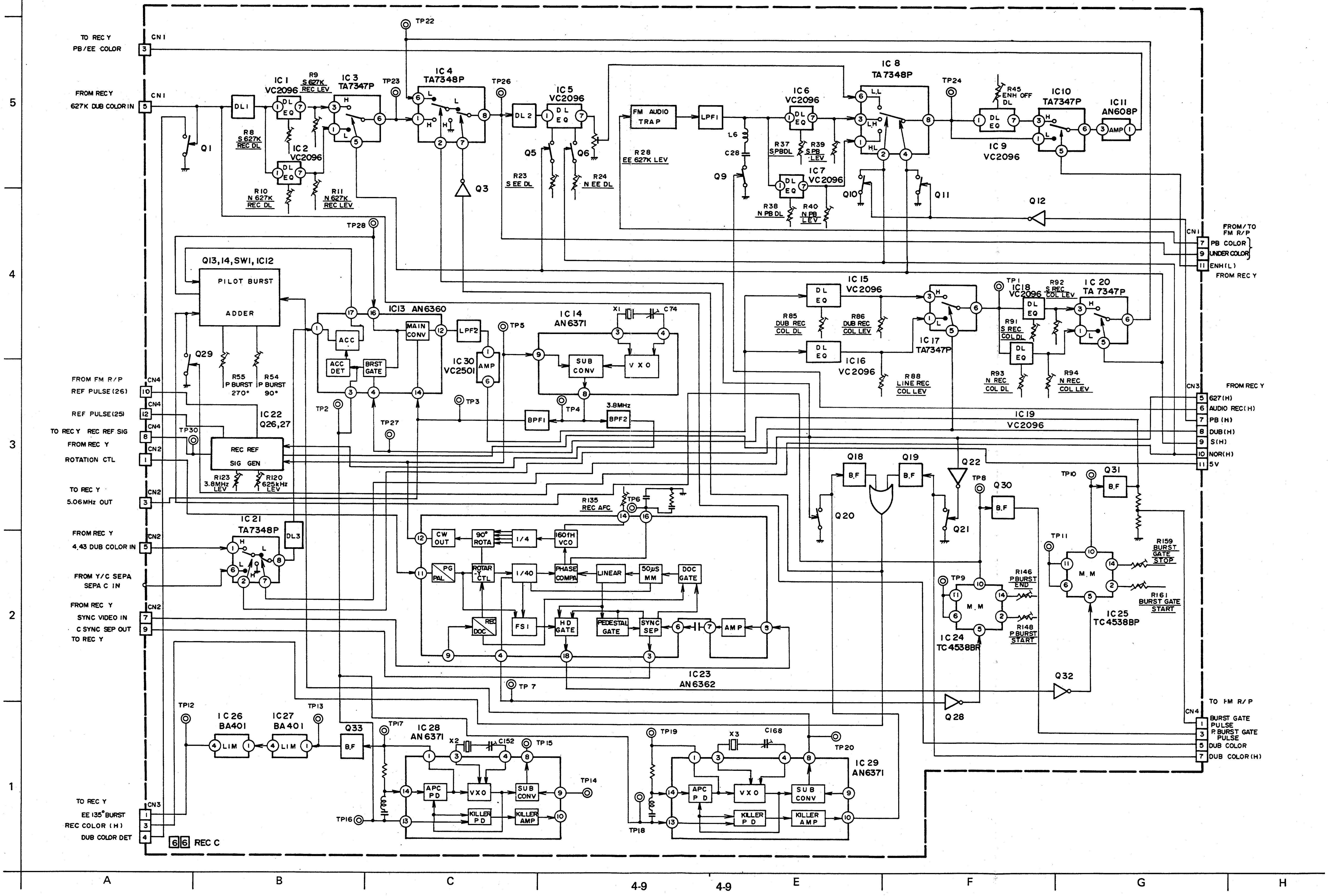


6
5
4
3
2
1
A
B
C
E
F
G
H
IC 1
TA7348P
IC 2
AN6306S
IC 3
AN6306S
IC 4
TA7348P
TO FROM REC COLOR
C SYNC SEPA
SYNC VIDEO OUT
FROM VIDEO CONN
1-46 VIDEO IN
1-48 4.43 DUB Y IN
1-50 627 DUB Y IN
L,L
L,H
H,L
Q3
B.F.
Q4
Q5
R47
AGC LEV
AGC AMP
AGC DET
VIDEO AMP
B.F.
CLAMP
MAIN EMPHA
FM MOD
W/D CLIP
Q10
TP 1
Q6
B.F.
HPF
D8
D9
R36 N.DEV
R44 N.W.CLIP
R32 N.D.CLIP
R37 N.CARR
TP3
TP8
Q8
B.F.
TP4
Q11
R58 S.DEV
R65 S.W.CLIP
R59 S.CARR
R53 S.D.CLIP
TP5
D10
D11
TO FM R/P
REC FM OUT
TO/FROM FM R/P
NO SIGNAL(L)
VIDEO F.F.
627(H)
NOR(H)
PB(H)
REC(H)
SRH(H)
HEAD SW(H)
S(H)
IC 9
TC4069UB
PB(L) 1-5A
REC(L) 1-4A
SRH(L) 1-8A
FROM SYSCON
HEAD SW(L) 1-3A
FM STOP(L) 1-2A
AUDIO REC(L) 1-1A
FROM SYSCON
PB(H)
AUDIO REC(H)
627(H)
DUB(H)
S(H)
NOR(H)
TO REC C
IC 15
TC4069UB
627(H) 1-24
TO PB C
DUB(L) 1-16
627(L) 1-14
FROM FRONT LED
AGC(L) 1-15
DUB ON(L) 1-12
FROM SELECT SW
DUB ON(H) 1-11
NOR(H) 1-10
DUB(H) 1-9
TO PB C
TO SERVO I
1-20 SYNC VIDEO
Q2
B.F.
FROM PB C
1-32 VIDEO F.F.
TO VR
1-44 V. VOL OUT
FROM VR
1-43 V. VOL IN
Q14
B.F.
L25,C58,C59
L.P.F.
TP2
IC5
TA7347P
IC6
VC2501
AMP
FROM FM R/P
TRACKING DC IN
IC 10
VC 2504
IC11
AN608P
AMP
R118
N.T.R
R119
R120
S.T.R
VIDEO
PB(H)
S(H)
TO FM R/P
VIDEO METER
TO Y/C SEPA
VIDEO OUT
SEPA Y IN
IC 7
TA7347P
Q15
B.F.
LPF1
Q16, Q17
PHASE EQ
R94
N.Y.LEV
Q18
B.F.
TP7
IC 8
BA401
HPF & LIMITER
MIXER
Q20, Q21
B.F.
Q19
FROM REC C
PB/EE COLOR
TO PB C
1-22 PB/EE COLOR
TO REC C
627 DUB COLOR IN
FROM VIDEO CONN.
1-30 627 DUB C IN
TO REC C
ROTATION CTL
FROM PB C
1-28 ROTATION CTL
FROM REC C
5.06MHz OUT
TO PB C
1-26 5.06MHz OUT
TO REC C
4.43 DUB C IN
FROM VIDEO CONN.
1-34 4.43 DUB C IN
FROM REC C
EE +135° BURST
REC COLOR(H)
DUB COL DET
FROM REC C
1-1B DUB COL DET
1-2B REC COLOR(H)
1-4B EE +135° BURST
FROM FM R/P
REC INVALID
TO SYSCON
1-7A REC INVALID
Q22
B F
LPF 2
Q23
B F
DL 1
IC12
VC2501
AMP
IC 13
HMC-229
Q24
Q25
Q26
REF SIGNAL ADDER
TP10
R159
LIM BAL
IC 14
VC2031
SUB EMPHA
Q30
B.F.
TP11
TP13
R155
SUB EMPHA OUT LEV
TP9
Q29
B.F.
12V
R151
DC ADJ
FROM FM R/P
DELETE PULSE
REF SIGNAL
FROM REC C
01

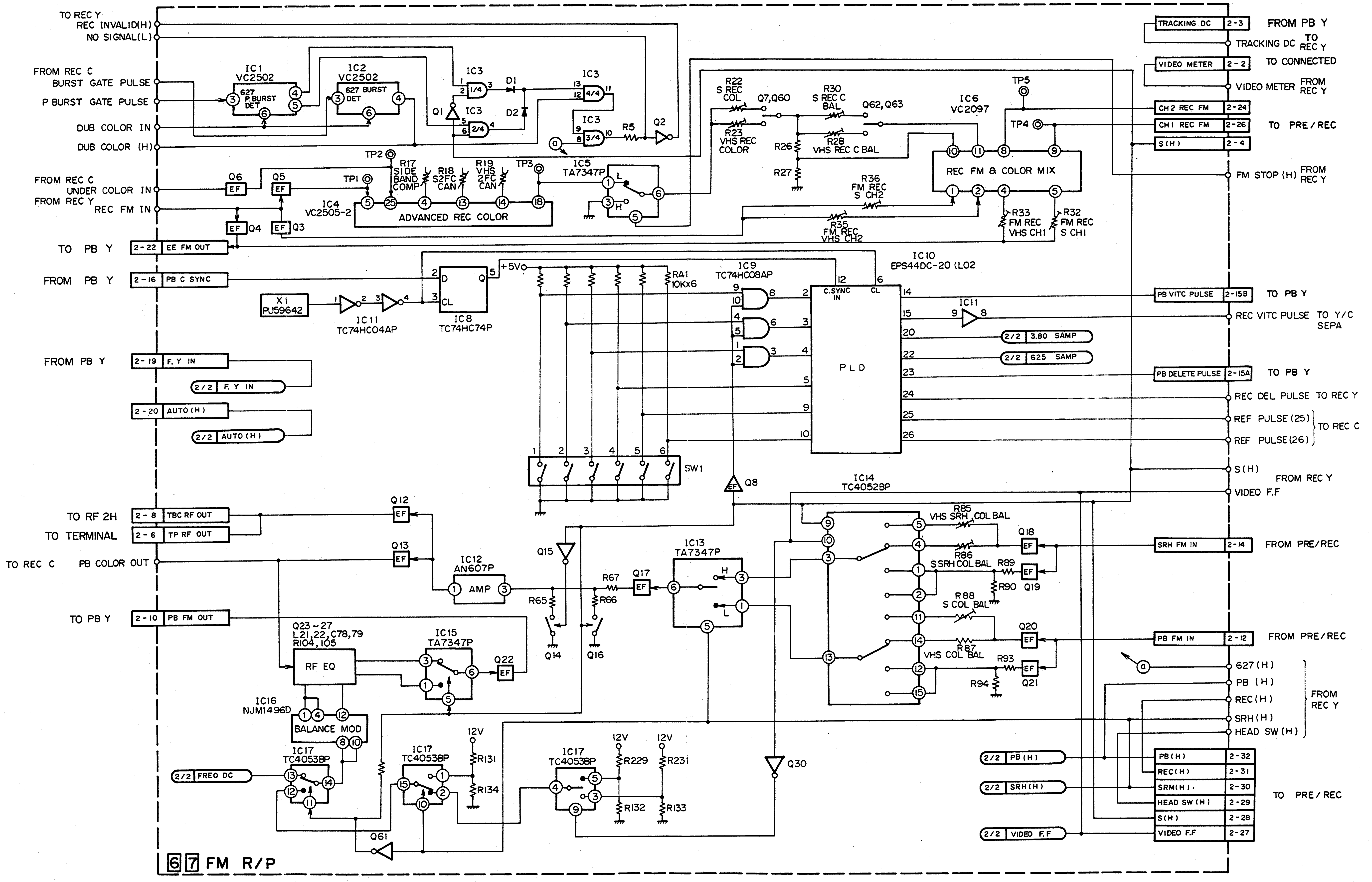
4.6 Y/C SEPARATOR BLOCK DIAGRAM


FROM REC Y VIDEO IN
CN1
2
TP15
Q1
B.F
DL 1
DL 2
IC 1
8VT15
2
3
4
1
TP 1
R16
MID IN LEV
DL 3
TP2
MID 1
Q7 ~ Q15
LPF 1
Q16
B.F
Q23~Q26
AMP
R80
R103
YH LEV
LPF 3
Q20
R111
C COMB DL
R112
C COMB LEV
V.DL
Q39
R127
C LEV
AMP
Q41,44,45
IC 5
8VT15
3
2
1
R122
Y LEV
Q43
B.F
TP13
CN 2
3
TO REC Y SEP Y OUT
TP12
CN 3
1
TO REC COLOR SEP C OUT
CN 2
1
FROM FM R/P VITC PULSE
TP 3
R41
CCD BIAS1
R42
CCD BIAS2
4
21
14
1
1H CCD DL
IC 2
TP 5
R49
CCD IN LEV
AMP
Q7
TP 6
R51
CCD BIAS3
R52
CCD BIAS 4
4
21
14
1
1H CCD DL
IC 3
TP 8
LPF 2
R64
2H DL LEV
R68
2HDL
V.DL
Q21
AMP
IC 4
TP10
TP11
MID 2
Q27 ~ Q35
Q37
B.F
8
21MHz CXO
X 1
0 4

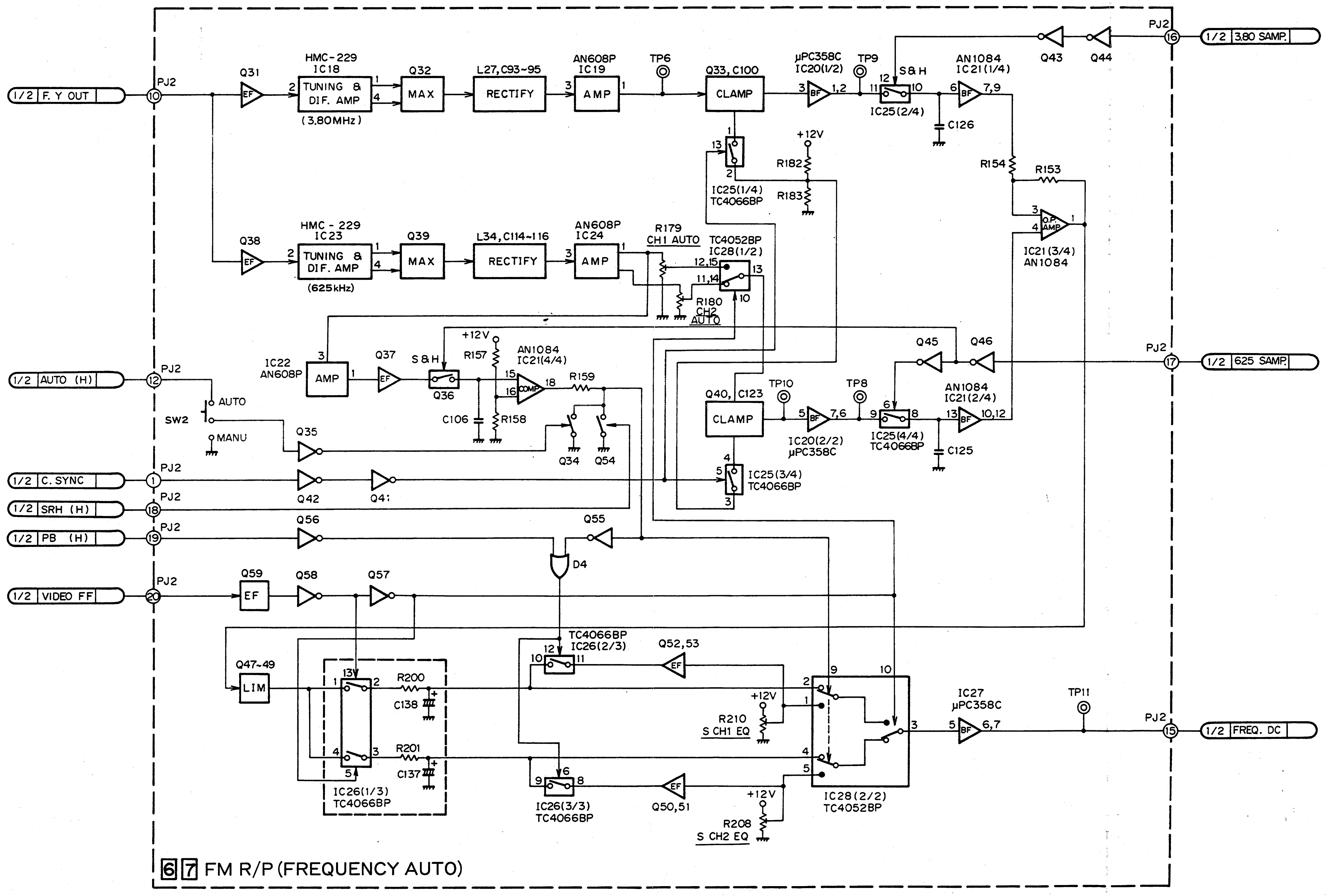
4.7 REC COLOUR BLOCK DIAGRAM


TO REC Y
PB/EE COLOR
CN1
FROM REC Y
627K DUB COLOR IN
TP22
IC1
VC2096
R9
S 627K
REC LEV
IC3
TA7347P
TP23
IC4
TA7348P
TP26
IC5
VC2096
IC8
TA7348P
TP24
R45
ENH OFF
DL
IC10
TA7347P
IC11
AN608P
DL1
DL EQ
DL2
FM AUDIO TRAP
LPF1
IC6
VC2096
AMP
Q1
R8
S 627K
REC DL
IC2
VC2096
R10
N 627K
REC DL
R11
N 627K
REC LEV
Q3
Q5
Q6
R23
S EE DL
R24
N EE DL
R28
EE 627K LEV
L6
C28
Q9
R37
SPBDL
R39
SPB LEV
IC7
VC2096
R38
N PB DL
R40
N PB LEV
Q10
Q11
IC9
VC2096
Q12
FROM/TO
FM R/P
PB COLOR
UNDER COLOR
ENH(L)
FROM REC Y
TP28
Q13,14,SW1,IC12
PILOT BURST
ADDER
IC13 AN6360
ACC
ACC DET
BRST GATE
MAIN CONV
LPF2
TP5
IC14
AN6371
X1
C74
SUB CONV
VXO
IC30
VC2501
IC15
VC2096
R85
DUB REC
COL DL
R86
DUB REC
COL LEV
TP1
IC18
VC2096
R92
S REC
COL LEV
IC20
TA 7347P
IC16
VC2096
R88
LINE REC
COL LEV
IC17
TA7347P
R91
S REC
COL DL
R93
N REC
COL DL
R94
N REC
COL LEV
Q29
R55
P BURST
270°
R54
P BURST
90°
FROM FM R/P
REF PULSE(26)
CN4
REF PULSE(25)
TO REC Y REC REF SIG
FROM REC Y
ROTATION CTL
CN2
TP30
IC22
Q26,27
REC REF
SIG GEN
R123
3.8MHz
LEV
R120
625kHz
LEV
TP2
TP27
TP3
TP4
BPF1
3.8MHz
BPF2
CN3
FROM REC Y
627(H)
AUDIO REC(H)
PB(H)
DUB(H)
S(H)
NOR(H)
5V
IC19
VC2096
Q18
Q19
B.F
Q22
TP8
Q30
TP10
Q31
Q20
Q21
TO REC Y
5.06MHz OUT
R135
REC AFC
TP6
IC21
TA7348P
DL3
FROM REC Y
4.43 DUB COLOR IN
FROM Y/C SEPA
SEPA C IN
CW OUT
90° ROTA
1/4
160fH VCO
PG PAL
ROTAR CTL
1/40
PHASE COMPA
LINEAR
50μS MM
DOC GATE
REC DOC
FS1
HD GATE
PEDESTAL GATE
SYNC SEP
AMP
TP11
R159
BURST
GATE
STOP
TP9
R146
P BURST
END
M.M
R161
BURST GATE
START
R148
P BURST
START
IC24
TC4538BP
IC25
TC4538BP
FROM REC Y
SYNC VIDEO IN
C SYNC SEP OUT
TO REC Y
IC23
AN6362
TP 7
Q32
Q28
TO FM R/P
BURST GATE
PULSE
P. BURST GATE
PULSE
DUB COLOR
DUB COLOR(H)
TP12
IC26
BA401
IC27
BA401
TP13
LIM
Q33
TP17
IC28
AN6371
X2
C152
TP15
TP14
APC PD
KILLER PD
KILLER AMP
TP16
TP19
X3
C168
TP20
IC29
AN6371
TP18
TO REC Y
EE 135° BURST
REC COLOR (H)
DUB COLOR DET
66 REC C
6
5
4
3
2
1
A
B
C
E
F
G
H

4.8 FM REC/PB BLOCK DIAGRAM 1/2

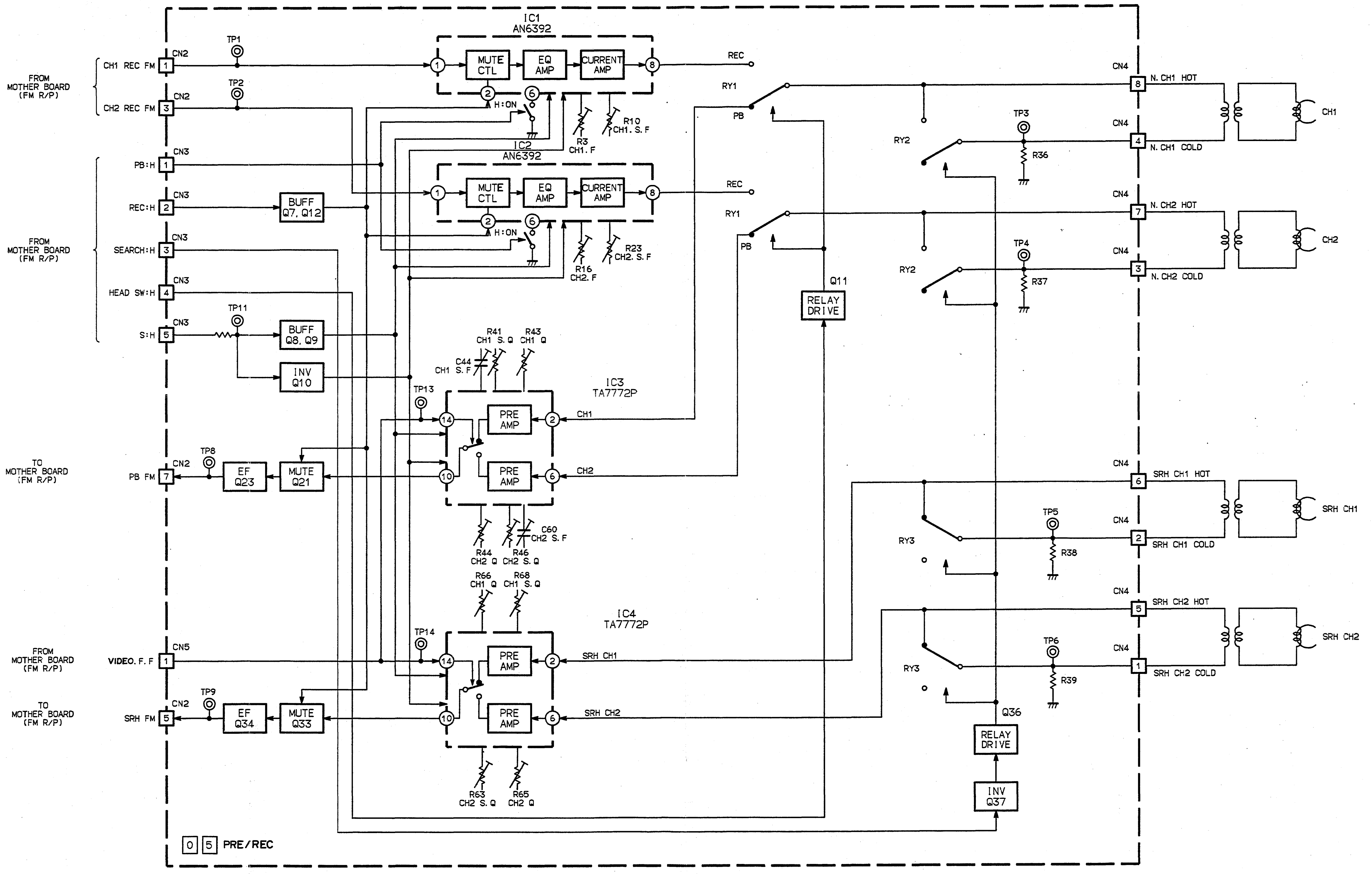

TO REC Y
REC INVALID(H)
NO SIGNAL(L)
FROM REC C
BURST GATE PULSE
P BURST GATE PULSE
DUB COLOR IN
DUB COLOR (H)
FROM REC C
UNDER COLOR IN
FROM REC Y
REC FM IN
TO PB Y
FROM PB Y
FROM PB Y
TO RF 2H
TO TERMINAL
TO REC C
PB COLOR OUT
TO PB Y
IC1
VC2502
627 P.BURST DET
IC2
VC2502
627 BURST DET
IC3
1/4
2/4
3/4
4/4
D1
D2
Q1
Q2
R5
Q6
Q5
Q4
Q3
EF
TP1
TP2
TP3
R17
SIDE BAND COMP
R18
S2FC CAN
R19
VHS 2FC CAN
IC4
VC2505-2
ADVANCED REC COLOR
IC5
TA7347P
R22
S REC COL
Q7,Q60
R23
VHS REC COLOR
R26
R27
R30
S REC C BAL
R28
VHS REC C BAL
Q62,Q63
R36
FM REC S CH2
R35
FM REC VHS CH2
IC6
VC2097
REC FM & COLOR MIX
TP5
TP4
R33
FM REC VHS CH1
R32
FM REC S CH1
2-22 EE FM OUT
2-16 PB C SYNC
X1
PU59642
IC11
TC74HC04AP
IC8
TC74HC74P
+5V
RA1
10Kx6
IC9
TC74HC08AP
IC10
EPS44DC-20 (LO2
C.SYNC IN
CL
PLD
SW1
Q8
2-19 F.Y IN
2/2 F.Y IN
2-20 AUTO(H)
2/2 AUTO(H)
2-8 TBC RF OUT
2-6 TP RF OUT
2-10 PB FM OUT
Q12
Q13
IC12
AN607P
AMP
Q15
R65
R66
R67
Q17
Q14
Q16
IC13
TA7347P
IC14
TC4052BP
R85
VHS SRH COL BAL
R86
S SRH COL BAL
R89
R90
Q18
Q19
R88
S COL BAL
R87
VHS COL BAL
R93
R94
Q20
Q21
Q23~27
L21,22,C78,79
R104,105
RF EQ
IC15
TA7347P
Q22
IC16
NJM1496D
BALANCE MOD
IC17
TC4053BP
2/2 FREQ DC
Q61
12V
R131
R134
R229
R231
R132
R133
Q30
TRACKING DC 2-3
FROM PB Y
TRACKING DC TO REC Y
VIDEO METER 2-2
TO CONNECTED
VIDEO METER FROM REC Y
CH2 REC FM 2-24
CH1 REC FM 2-26
S(H) 2-4
TO PRE/REC
FM STOP (H) FROM REC Y
PB VITC PULSE 2-15B
TO PB Y
REC VITC PULSE TO Y/C SEPA
2/2 3.80 SAMP
2/2 625 SAMP
PB DELETE PULSE 2-15A
TO PB Y
REC DEL PULSE TO REC Y
REF PULSE(25)
REF PULSE(26)
TO REC C
S(H)
VIDEO F.F
FROM REC Y
SRH FM IN 2-14
FROM PRE/REC
PB FM IN 2-12
FROM PRE/REC
627(H)
PB (H)
REC(H)
SRH(H)
HEAD SW(H)
FROM REC Y
2/2 PB(H)
2/2 SRH(H)
2/2 VIDEO F.F
PB(H) 2-32
REC(H) 2-31
SRM(H) 2-30
HEAD SW (H) 2-29
S(H) 2-28
VIDEO F.F 2-27
TO PRE/REC
6 7 FM R/P
6
5
4
3
2
1
A
B
C
4-10
4-10
E
F
G
H

FM REC/PB BLOCK DIAGRAM 2/2 (FREQUENCY AUTO)

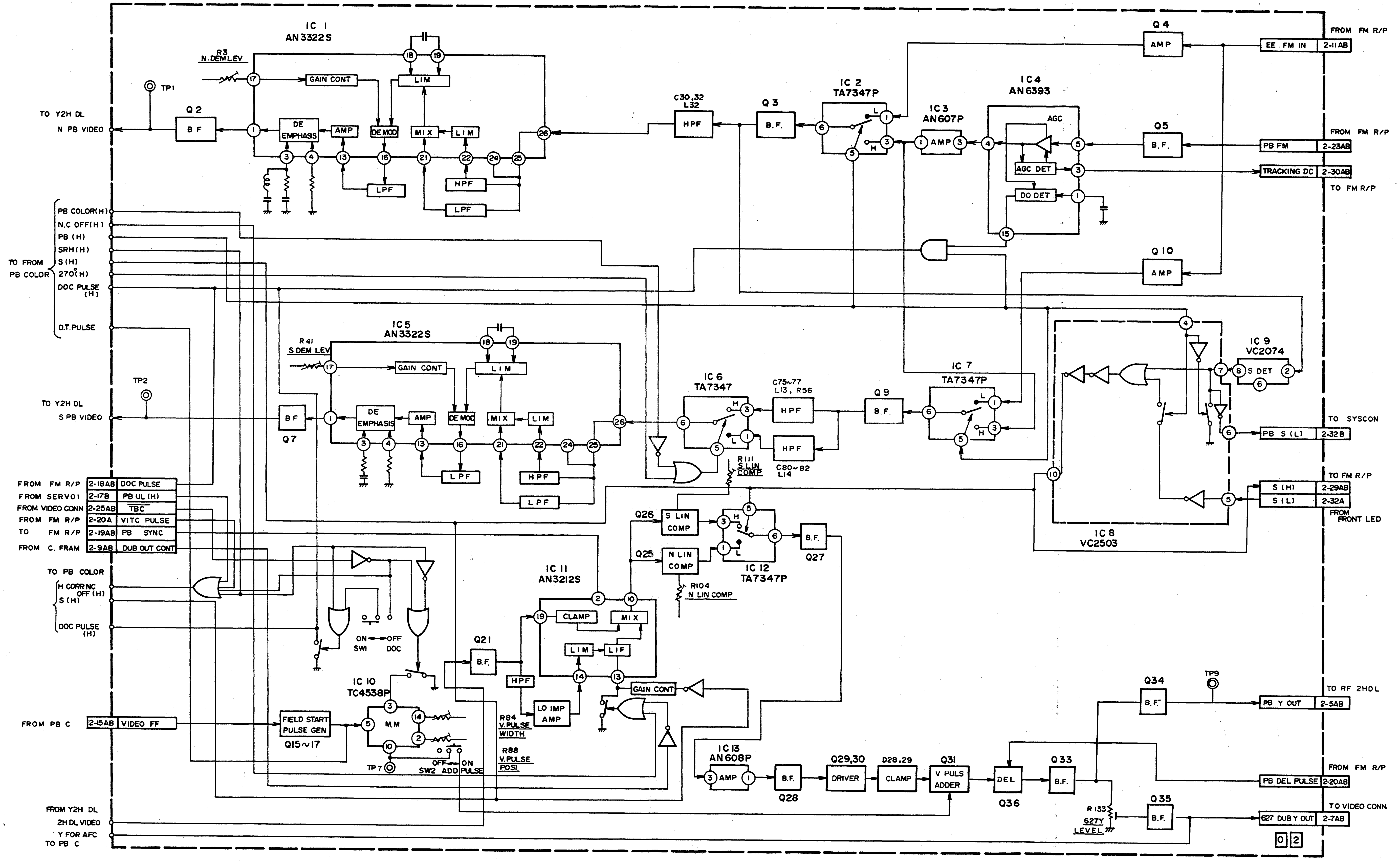

1/2 F. Y OUT
PJ2
10
Q31
EF
HMC-229
IC18
TUNING & DIF. AMP
(3.80MHz)
Q32
MAX
L27,C93~95
RECTIFY
AN608P
IC19
AMP
TP6
Q33, C100
CLAMP
µPC358C
IC20(1/2)
TP9
BF
1,2
S&H
AN1084
IC21(1/4)
7,9
Q43
Q44
PJ2
16
1/2 3.80 SAMP.
IC25(2/4)
C126
13
IC25(1/4)
TC4066BP
+12V
R182
R183
R154
R153
IC21(3/4)
AN1084
O.P. AMP
Q38
HMC-229
IC23
TUNING & DIF. AMP
(625kHz)
Q39
MAX
L34, C114~116
RECTIFY
AN608P
IC24
AMP
R179
CH1 AUTO
TC4052BP
IC28(1/2)
12,15
11,14
R180
CH2
AUTO
IC22
AN608P
AMP
Q37
EF
S&H
Q36
+12V
R157
AN1084
IC21(4/4)
COMP
R159
C106
R158
Q45
Q46
PJ2
17
1/2 625 SAMP.
1/2 AUTO (H)
PJ2
12
AUTO
SW2
MANU
Q35
Q34
Q54
Q40, C123
CLAMP
TP10
TP8
7,6
IC20(2/2)
µPC358C
IC25(4/4)
TC4066BP
C125
AN1084
IC21(2/4)
10,12
IC25(3/4)
TC4066BP
1/2 C. SYNC
PJ2
1
Q42
Q41
1/2 SRH (H)
PJ2
18
1/2 PB (H)
PJ2
19
Q56
Q55
D4
1/2 VIDEO FF
PJ2
20
Q59
EF
Q58
Q57
TC4066BP
IC26(2/3)
Q52,53
Q47~49
LIM
R200
C138
R201
C137
IC26(1/3)
TC4066BP
+12V
R210
S CH1 EQ
IC26(3/3)
TC4066BP
Q50,51
+12V
R208
S CH2 EQ
IC28(2/2)
TC4052BP
IC27
µPC358C
6,7
TP11
PJ2
15
1/2 FREQ. DC
6 7 FM R/P (FREQUENCY AUTO)

I J K 4-11 4-11 M N O P

4.9 VIDEO PRE/RECAMP BLOCK DIAGRAM


FROM MOTHER BOARD (FM R/P)
CH1 REC FM
CH2 REC FM
CN2
TP1
TP2
IC1 AN6392
MUTE CTL
EQ AMP
CURRENT AMP
REC
H:ON
R3 CH1. F
R10 CH1. S. F
RY1
PB
CN4
N. CH1 HOT
N. CH1 COLD
CH1
TP3
R36
RY2
FROM MOTHER BOARD (FM R/P)
CN3
PB:H
REC:H
SEARCH:H
HEAD SW:H
S:H
BUFF Q7, Q12
BUFF Q8, Q9
INV Q10
TP11
IC2 AN6392
R16 CH2. F
R23 CH2. S. F
N. CH2 HOT
N. CH2 COLD
CH2
TP4
R37
Q11
RELAY DRIVE
R41 CH1 S. Q
R43 CH1 Q
C44 CH1 S. F
IC3 TA7772P
TP13
PRE AMP
TO MOTHER BOARD (FM R/P)
PB FM
TP8
EF Q23
MUTE Q21
R44 CH2 Q
R46 CH2 S. Q
C60 CH2 S. F
SRH CH1 HOT
SRH CH1 COLD
SRH CH1
TP5
R38
RY3
R66 CH1 Q
R68 CH1 S. Q
IC4 TA7772P
TP14
FROM MOTHER BOARD (FM R/P)
VIDEO. F. F
CN5
TO MOTHER BOARD (FM R/P)
SRH FM
TP9
EF Q34
MUTE Q33
R63 CH2 S. Q
R65 CH2 Q
SRH CH2 HOT
SRH CH2 COLD
SRH CH2
TP6
R39
Q36
RELAY DRIVE
INV Q37
0 5 PRE/REC
6
5
4
3
2
1
A
B
C
E
F
G
H

4.10 PB Y BLOCK DIAGRAM


IC 1
AN3322S
R3
N. DEMLEV
GAIN CONT
LIM
TP1
TO Y2H DL
N PB VIDEO
Q 2
B F
DE EMPHASS
AMP
DE MOD
MIX
LIM
LPF
HPF
LPF
C30,32
L32
HPF
Q 3
B. F.
IC 2
TA7347P
L
H
IC 3
AN607P
AMP
IC 4
AN6393
AGC
AGC DET
DO DET
Q 4
AMP
Q 5
B. F.
FROM FM R/P
EE . FM IN
2-11AB
FROM FM R/P
PB FM
2-23AB
TRACKING DC
2-30AB
TO FM R/P
Q 10
AMP
TO FROM PB COLOR
PB COLOR(H)
N.C OFF(H)
PB (H)
SRH(H)
S(H)
270°(H)
DOC PULSE (H)
D.T. PULSE
IC 5
AN3322S
R41
S DEM LEV
GAIN CONT
LIM
TP2
TO Y2H DL
S PB VIDEO
BF
Q7
DE EMPHASIS
AMP
DE MOD
MIX
LIM
LPF
HPF
LPF
IC 6
TA7347
H
L
C75~77
L13, R56
HPF
HPF
C80~82
L14
R111
S LIN COMP
Q 9
B. F.
IC 7
TA7347P
L
H
IC 9
VC2074
S DET
TO SYSCON
PB S (L)
2-32B
TO FM R/P
S (H)
2-29AB
S (L)
2-32A
FROM FRONT LED
IC 8
VC2503
FROM FM R/P
2-18AB
DOC PULSE
FROM SERVO1
2-17B
PB UL (H)
FROM VIDEO CONN
2-25AB
TBC
FROM FM R/P
2-20A
VITC PULSE
TO FM R/P
2-19AB
PB SYNC
FROM C. FRAM
2-9AB
DUB OUT CONT
Q26
S LIN COMP
Q25
N LIN COMP
R104
N LIN COMP
IC 12
TA7347P
H
L
B.F.
Q27
TO PB COLOR
H CORR NC OFF (H)
S (H)
DOC PULSE (H)
ON ↔ OFF
SW1 DOC
IC 11
AN3212S
CLAMP
MIX
LIM
LIF
GAIN CONT
Q21
B.F.
HPF
LO IMP AMP
R84
V. PULSE WIDTH
R88
V. PULSE POSI
IC 10
TC4538P
M.M
FROM PB C
2-15AB
VIDEO FF
FIELD START PULSE GEN
Q15~17
TP 7
OFF ↔ ON
SW2 ADD PULSE
FROM Y2H DL
2H DL VIDEO
Y FOR AFC
TO PB C
IC 13
AN608P
AMP
B.F.
Q28
Q29,30
DRIVER
D28,29
CLAMP
Q31
V PULS ADDER
DEL
Q36
Q33
B.F.
Q34
B.F.
TP9
TO RF 2HDL
PB Y OUT
2-5AB
FROM FM R/P
PB DEL PULSE
2-20AB
R133
627Y LEVEL
Q35
B.F.
TO VIDEO CONN.
627 DUB Y OUT
2-7AB
02

5

4

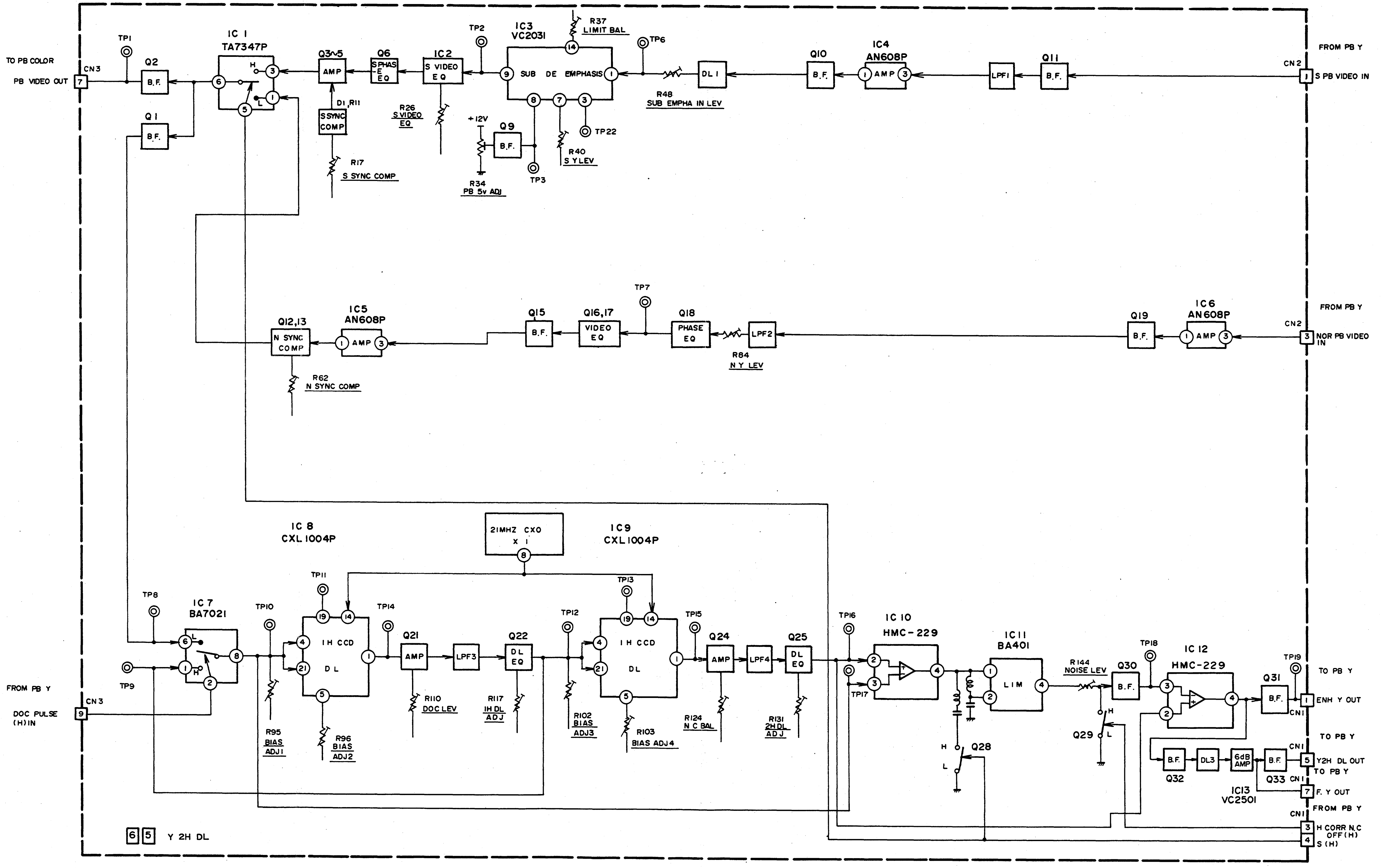
3

2

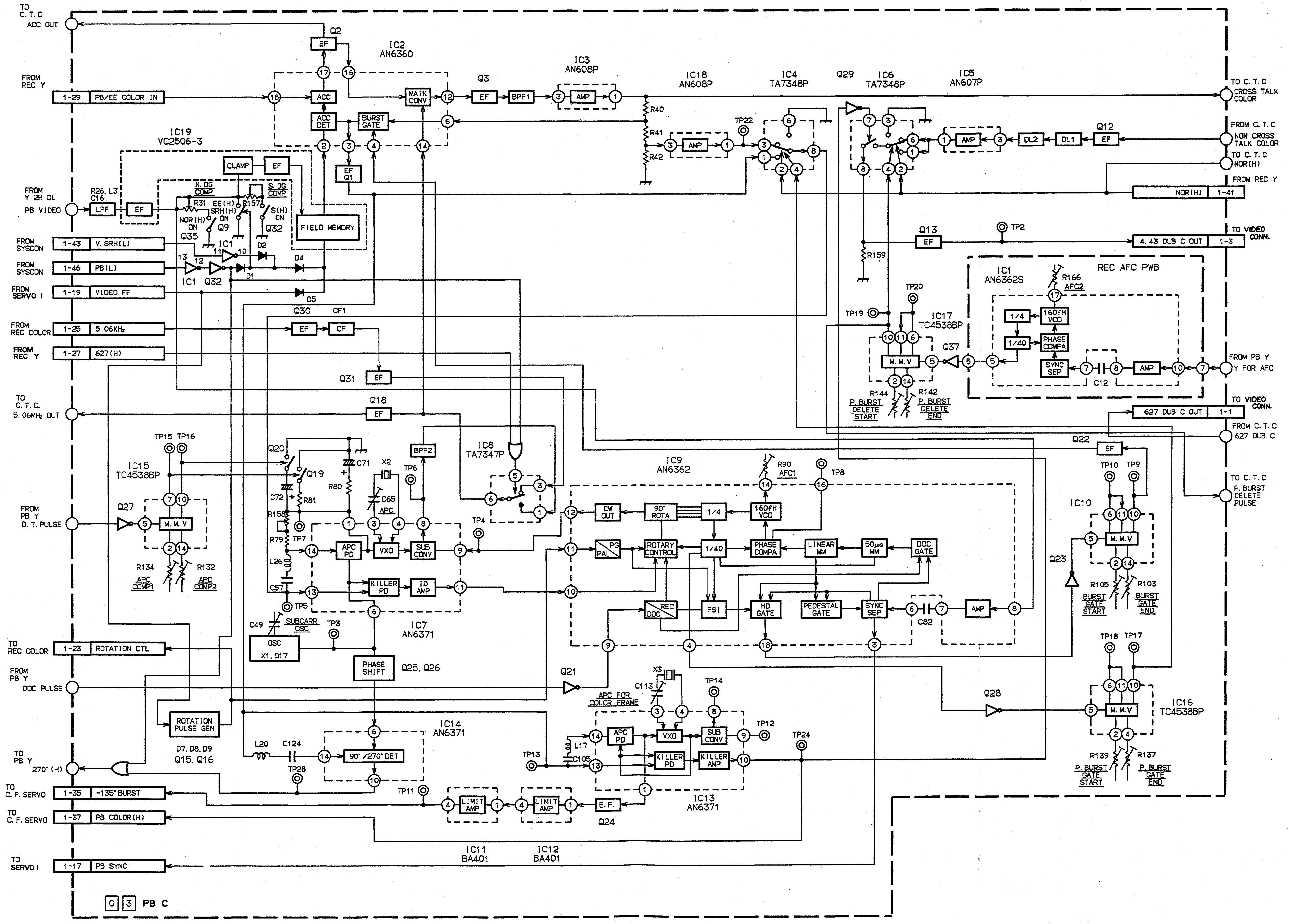
1

A B C D E F G H

4.11 Y 2H DELAY BLOCK DIAGRAM

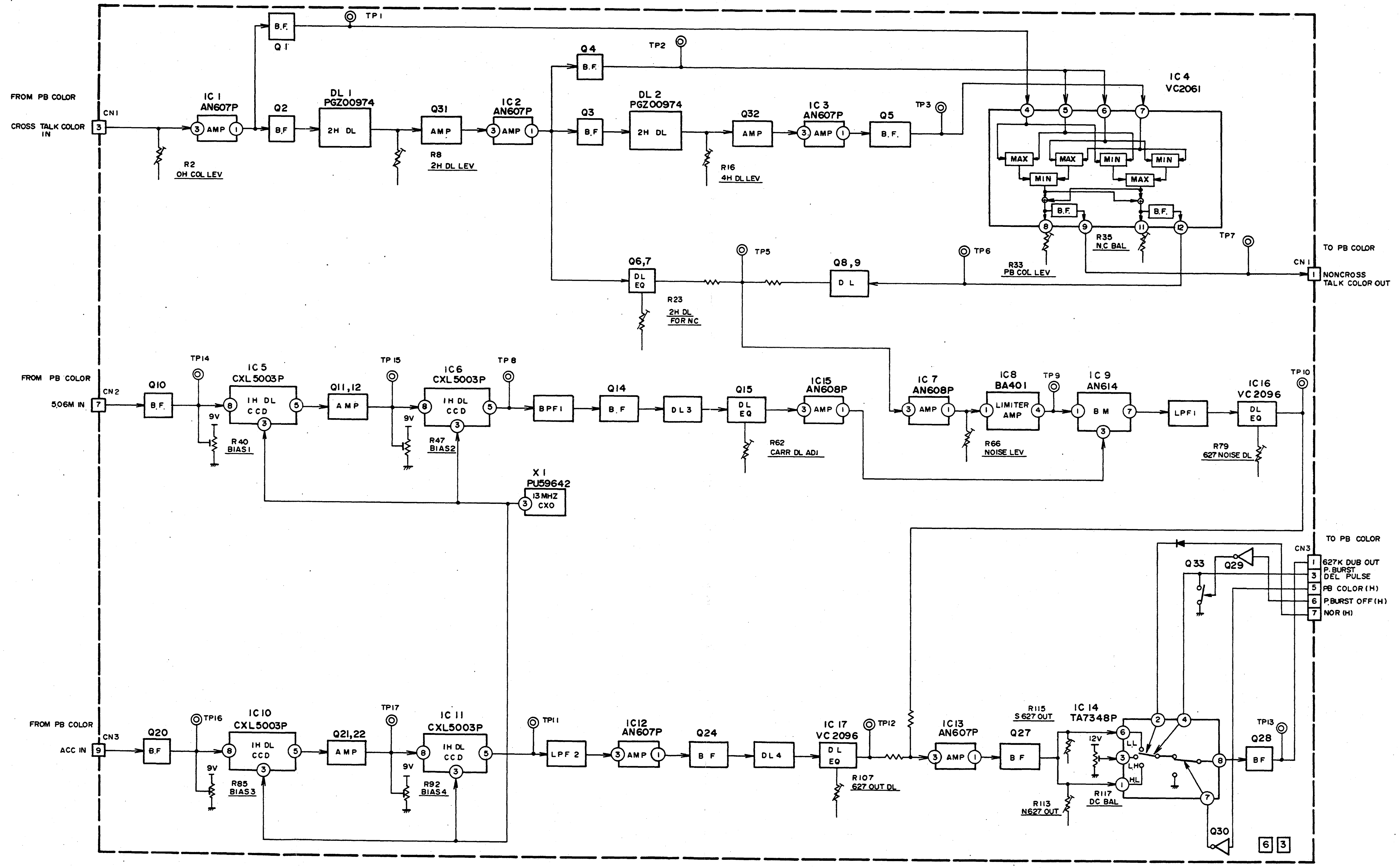

TO PB COLOR
PB VIDEO OUT
CN3
7
TP1
Q2
B.F.
Q1
B.F.
IC 1
TA7347P
6
5
3
1
H
L
Q3~5
AMP
D1,R11
SSYNC COMP
R17
S SYNC COMP
Q6
SPHAS -E EQ
IC2
S VIDEO EQ
R26
S VIDEO EQ
TP2
IC3
VC2031
9
SUB DE EMPHASIS
1
14
8
7
3
R37
LIMIT BAL
+12V
Q9
B.F.
R34
PB 5v ADJ
TP3
R40
S Y LEV
TP22
TP6
R48
SUB EMPHA IN LEV
DL 1
Q10
B.F.
IC4
AN608P
1
AMP
3
LPF1
Q11
B.F.
FROM PB Y
CN2
1
S PB VIDEO IN
Q12,13
N SYNC COMP
R62
N SYNC COMP
IC5
AN608P
1
AMP
3
Q15
B.F.
Q16,17
VIDEO EQ
TP7
Q18
PHASE EQ
R84
N Y LEV
LPF2
Q19
B.F.
IC6
AN608P
1
AMP
3
FROM PB Y
CN2
3
NOR PB VIDEO IN
IC 8
CXL1004P
21MHZ CXO
X 1
8
IC9
CXL1004P
TP8
IC 7
BA7021
6
1
2
8
H
L
TP9
FROM PB Y
DOC PULSE (H)IN
CN3
9
TP10
R95
BIAS ADJ1
TP11
19
14
4
21
1H CCD
DL
1
5
R96
BIAS ADJ2
TP14
Q21
AMP
R110
DOC LEV
LPF3
Q22
DL EQ
R117
1H DL ADJ
TP12
R102
BIAS ADJ3
TP13
19
14
4
21
1H CCD
DL
1
5
R103
BIAS ADJ4
TP15
Q24
AMP
R124
N C BAL
LPF4
Q25
DL EQ
R131
2H DL ADJ
TP16
TP17
IC 10
HMC-229
2
3
4
H
L
Q28
IC11
BA401
1
2
LIM
4
R144
NOISE LEV
Q29
H
L
Q30
B.F.
TP18
IC 12
HMC-229
3
2
4
TP19
Q31
B.F.
CN1
1
TO PB Y
ENH Y OUT
Q32
B.F.
DL3
6dB AMP
B.F.
Q33
IC13
VC2501
CN1
5
TO PB Y
Y2H DL OUT
TO PB Y
CN1
7
F. Y OUT
FROM PB Y
CN1
3
H CORR N.C OFF(H)
4
S (H)
6 5
Y 2H DL
6
5
4
3
2
1
A
B
C
E
F
G
H

4.12 PB COLOUR BLOCK DIAGRAM



TO C.T.C ACC OUT
FROM REC Y
1-29 PB/EE COLOR IN
Q2
EF
IC2 AN6360
ACC
ACC DET
BURST GATE
MAIN CONV
Q3
EF
BPF1
IC3 AN608P
AMP
IC18 AN608P
IC4 TA7348P
Q29
IC6 TA7348P
IC5 AN607P
TO C.T.C CROSS TALK COLOR
FROM C.T.C NON CROSS TALK COLOR
TO C.T.C NOR(H)
FROM REC Y
NOR(H) 1-41
R40
R41
R42
TP22
AMP
DL2
DL1
Q12
EF
EF Q1
IC19 VC2506-3
CLAMP
EF
FIELD MEMORY
FROM Y 2H DL PB VIDEO
R26, L3 C16
LPF
EF
N.DG COMP
S.DG COMP
R31
EE(H) SRH(H) ON
R157
S(H) ON
NOR(H) ON
Q9
Q32
Q35
IC1
D2
D4
D1
D5
FROM SYSCON 1-43 V.SRH(L)
FROM SYSCON 1-46 PB(L)
FROM SERVO I 1-19 VIDEO FF
IC1 Q32
FROM REC COLOR 1-25 5.06KHz
FROM REC Y 1-27 627(H)
Q30 CF1
EF CF
Q31 EF
Q18 EF
TO C.T.C. 5.06MHz OUT
Q13
EF
TP2
4.43 DUB C OUT 1-3 TO VIDEO CONN.
R159
TP19
TP20
IC17 TC4538BP
M.M.V
Q37
R144 P.BURST DELETE START
R142 P.BURST DELETE END
REC AFC PWB
IC1 AN6362S
R166 AFC2
1/4
160fH VCO
1/40
PHASE COMPA
SYNC SEP
C12
AMP
FROM PB Y Y FOR AFC
TO VIDEO CONN. 627 DUB C OUT 1-1
FROM C.T.C 627 DUB C
Q22
EF
TO C.T.C P.BURST DELETE PULSE
TP15 TP16
IC15 TC4538BP
FROM PB Y D.T.PULSE
Q27
M.M.V
R134 APC COMP1
R132 APC COMP2
Q20
Q19
C71
X2
C72
R81
R80
C65 APC
R158
TP6
BPF2
IC8 TA7347P
TP7
R79
L26
C57
TP5
APC PD
VXO
SUB CONV
KILLER PD
ID AMP
TP4
C49 SUBCARR OSC
TP3
OSC X1, Q17
IC7 AN6371
PHASE SHIFT
Q25, Q26
IC9 AN6362
R90 AFC1
TP8
CW OUT
90° ROTA
1/4
160fH VCO
PG PAL
ROTARY CONTROL
1/40
PHASE COMPA
LINEAR MM
50µs MM
DOC GATE
REC DOC
FSI
HD GATE
PEDESTAL GATE
SYNC SEP
C82
AMP
TP10 TP9
IC10
Q23
M.M.V
R105 BURST GATE START
R103 BURST GATE END
TP18 TP17
Q28
IC16 TC4538BP
R139 P.BURST GATE START
R137 P.BURST GATE END
TO REC COLOR 1-23 ROTATION CTL
FROM PB Y DOC PULSE
Q21
ROTATION PULSE GEN
D7, D8, D9 Q15, Q16
TO PB Y 270° (H)
L20 C124
TP28
IC14 AN6371
90°/270° DET
X3
C113
APC FOR COLOR FRAME
TP14
TP12
TP24
TP13
L17
C105
APC PD
VXO
SUB CONV
KILLER PD
KILLER AMP
IC13 AN6371
TO C.F. SERVO 1-35 -135° BURST
TO C.F. SERVO 1-37 PB COLOR(H)
TP11
LIMIT AMP
LIMIT AMP
E.F.
Q24
IC11 BA401
IC12 BA401
TO SERVO I 1-17 PB SYNC
0 3 PB C
6
5
4
3
2
1
A
B
C
E
F
G
H

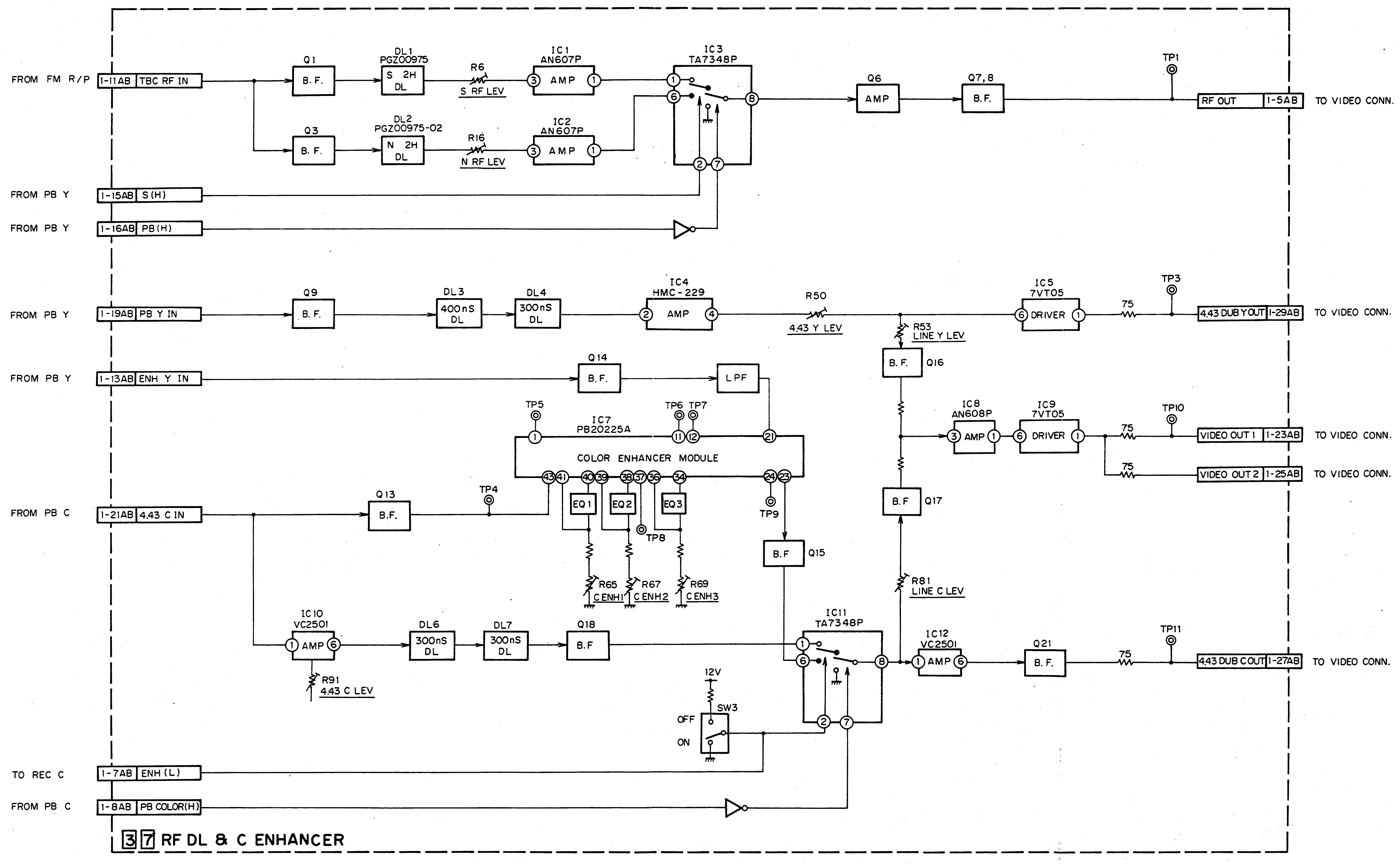
4.13 CROSSTALK CANCEL BLOCK DIAGRAM


FROM PB COLOR
CROSS TALK COLOR IN
CN1
3
IC 1
AN607P
AMP
R2
OH COL LEV
B.F.
Q1
TP1
Q2
B.F
DL 1
PGZ00974
2H DL
R8
2H DL LEV
Q31
AMP
IC2
AN607P
AMP
Q4
B.F.
TP2
Q3
B.F
DL 2
PGZ00974
2H DL
R16
4H DL LEV
Q32
AMP
IC 3
AN607P
AMP
Q5
B.F.
TP3
IC 4
VC2061
MAX
MAX
MIN
MIN
MIN
MAX
B.F.
B.F.
R35
N.C BAL
R33
PB COL LEV
TP7
TO PB COLOR
CN 1
1
NONCROSS TALK COLOR OUT
Q6,7
DL EQ
R23
2H DL FOR NC
TP5
Q8,9
D L
TP6
FROM PB COLOR
5.06M IN
CN2
7
Q10
B.F.
TP14
9V
R40
BIAS1
IC 5
CXL5003P
1H DL CCD
Q11,12
AMP
TP15
9V
R47
BIAS2
IC6
CXL5003P
1H DL CCD
TP8
X 1
PU59642
13MHZ CXO
BPF1
Q14
B.F
DL 3
Q15
DL EQ
R62
CARR DL ADJ
IC15
AN608P
AMP
IC 7
AN608P
AMP
IC8
BA401
LIMITER AMP
R66
NOISE LEV
TP9
IC 9
AN614
B M
LPF1
IC16
VC2096
DL EQ
R79
627 NOISE DL
TP10
TO PB COLOR
CN3
1 627K DUB OUT
3 P. BURST DEL PULSE
5 PB COLOR (H)
6 P.BURST OFF (H)
7 NOR (H)
Q 33
Q29
FROM PB COLOR
ACC IN
CN3
9
Q20
B.F
TP16
9V
R85
BIAS3
IC10
CXL5003P
1H DL CCD
Q21,22
AMP
TP17
9V
R92
BIAS4
IC 11
CXL5003P
1H DL CCD
TP11
LPF 2
IC12
AN607P
AMP
Q24
B F
DL 4
IC 17
VC 2096
DL EQ
R107
627 OUT DL
TP12
IC13
AN607P
AMP
R115
S 627 OUT
Q27
B F
R113
N627 OUT
IC 14
TA7348P
12V
LL
LH
HL
R117
DC BAL
Q30
TP13
Q28
BF
6 3

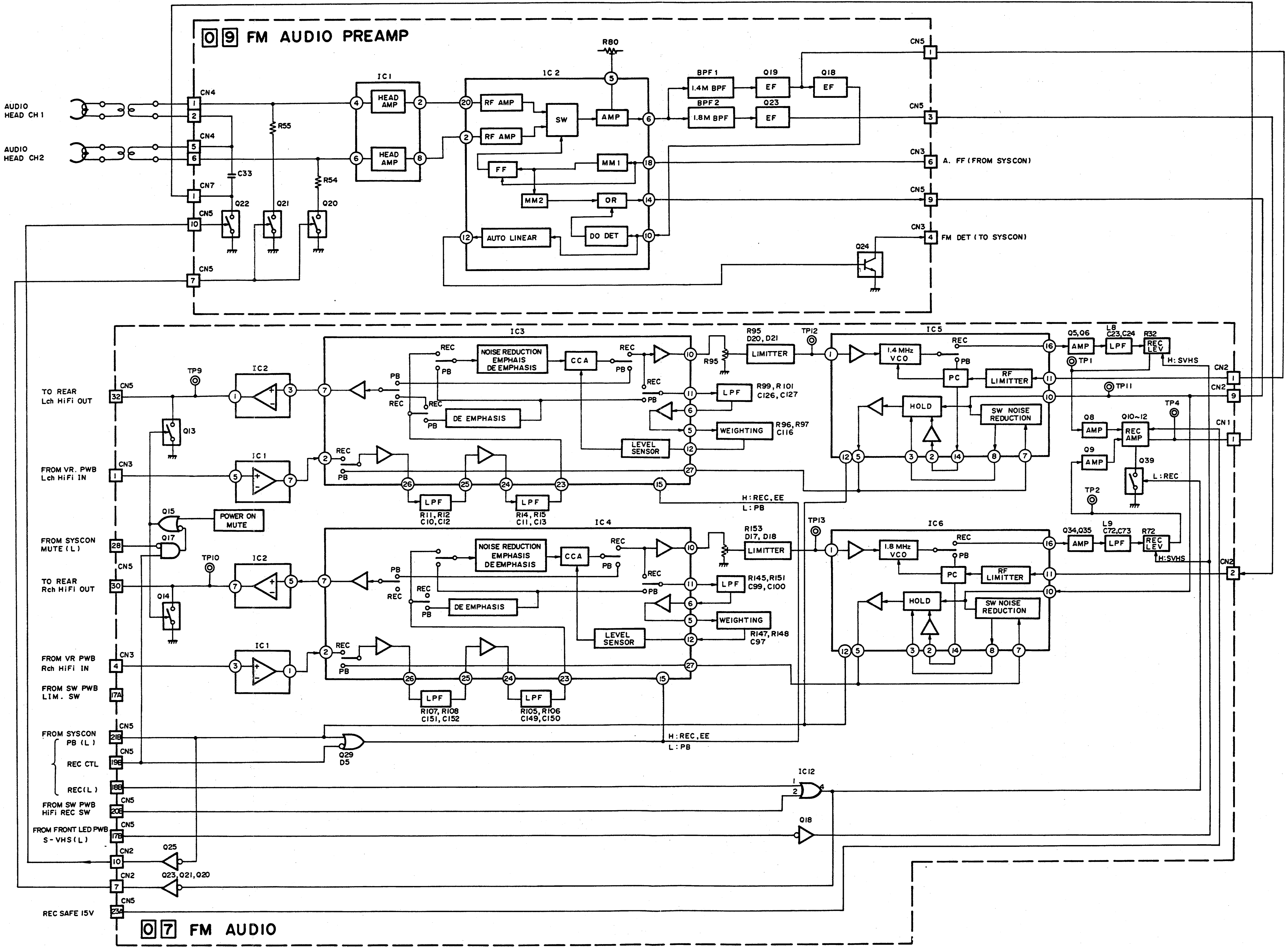
6
5
4
3
2
1

A B C 4-16 4-16 E F G H

4.14 RF 2H DELAY/COLOUR ENHANCER BLOCK DIAGRAM


FROM FM R/P
1-11AB TBC RF IN
Q1 B.F.
DL1 PGZ00975 S 2H DL
R6 S RF LEV
IC1 AN607P AMP
IC3 TA7348P
Q3 B.F.
DL2 PGZ00975-02 N 2H DL
R16 N RF LEV
IC2 AN607P AMP
Q6 AMP
Q7,8 B.F.
TP1
RF OUT 1-5AB
TO VIDEO CONN.
FROM PB Y
1-15AB S(H)
FROM PB Y
1-16AB PB(H)
FROM PB Y
1-19AB PB Y IN
Q9 B.F.
DL3 400nS DL
DL4 300nS DL
IC4 HMC-229 AMP
R50 4.43 Y LEV
R53 LINE Y LEV
IC5 7VT05 DRIVER
75
TP3
4.43 DUB Y OUT 1-29AB
TO VIDEO CONN.
FROM PB Y
1-13AB ENH Y IN
Q14 B.F.
LPF
B.F. Q16
TP5
TP6 TP7
IC7 PB20225A
COLOR ENHANCER MODULE
EQ1 EQ2 EQ3
TP8
TP9
IC8 AN608P AMP
IC9 7VT05 DRIVER
75
TP10
VIDEO OUT 1 1-23AB
TO VIDEO CONN.
75
VIDEO OUT 2 1-25AB
TO VIDEO CONN.
FROM PB C
1-21AB 4.43 C IN
Q13 B.F.
TP4
B.F Q17
B.F Q15
R65 CENH1
R67 CENH2
R69 CENH3
R81 LINE C LEV
IC10 VC2501 AMP
R91 4.43 C LEV
DL6 300nS DL
DL7 300nS DL
Q18 B.F
IC11 TA7348P
IC12 VC2501 AMP
Q21 B.F.
75
TP11
4.43 DUB C OUT 1-27AB
TO VIDEO CONN.
12V
SW3
OFF
ON
TO REC C
1-7AB ENH(L)
FROM PB C
1-8AB PB COLOR(H)
37 RF DL & C ENHANCER

4.15 FM AUDIO & FM AUDIO PREAMP BLOCK DIAGRAM



09 FM AUDIO PREAMP
AUDIO HEAD CH 1
AUDIO HEAD CH2
CN4
CN7
CN5
C33
R55
R54
Q22
Q21
Q20
IC1
HEAD AMP
IC2
R80
RF AMP
SW
AMP
FF
MM1
MM2
OR
DO DET
AUTO LINEAR
BPF 1
1.4M BPF
BPF 2
1.8M BPF
Q19
Q18
Q23
EF
CN3
A. FF (FROM SYSCON)
FM DET (TO SYSCON)
Q24
07 FM AUDIO
TO REAR Lch HiFi OUT
FROM VR. PWB Lch HiFi IN
FROM SYSCON MUTE (L)
TO REAR Rch HiFi OUT
FROM VR PWB Rch HiFi IN
FROM SW PWB LIM. SW
FROM SYSCON PB (L)
REC CTL
REC (L)
FROM SW PWB HiFi REC SW
FROM FRONT LED PWB S-VHS (L)
REC SAFE 15V
32
28
30
17A
21B
19B
18B
20B
17B
10
7
23A
TP9
TP10
Q13
Q14
Q15
Q17
POWER ON MUTE
IC3
IC4
NOISE REDUCTION EMPHAIS DE EMPHASIS
CCA
DE EMPHASIS
LEVEL SENSOR
REC
PB
LPF
R11, R12 C10, C12
R14, R15 C11, C13
R107, R108 C151, C152
R105, R106 C149, C150
R95
R95 D20, D21
R153 D17, D18
LIMITTER
R99, R101 C126, C127
R96, R97 C116
R145, R151 C99, C100
R147, R148 C97
WEIGHTING
TP12
TP13
IC5
IC6
1.4 MHz VCO
1.8 MHz VCO
PC
RF LIMITTER
HOLD
SW NOISE REDUCTION
H: REC, EE
L: PB
Q5, Q6
L8 C23, C24
R32
Q34, Q35
L9 C72, C73
R72
REC LEV
H: SVHS
TP1
TP11
TP4
TP2
Q8
Q9
Q10~12
REC AMP
Q39
L: REC
CN2
CN1
Q29 D5
IC12
Q18
Q25
Q23, Q21, Q20

4.16 NORMAL AUDIO BLOCK DIAGRAM

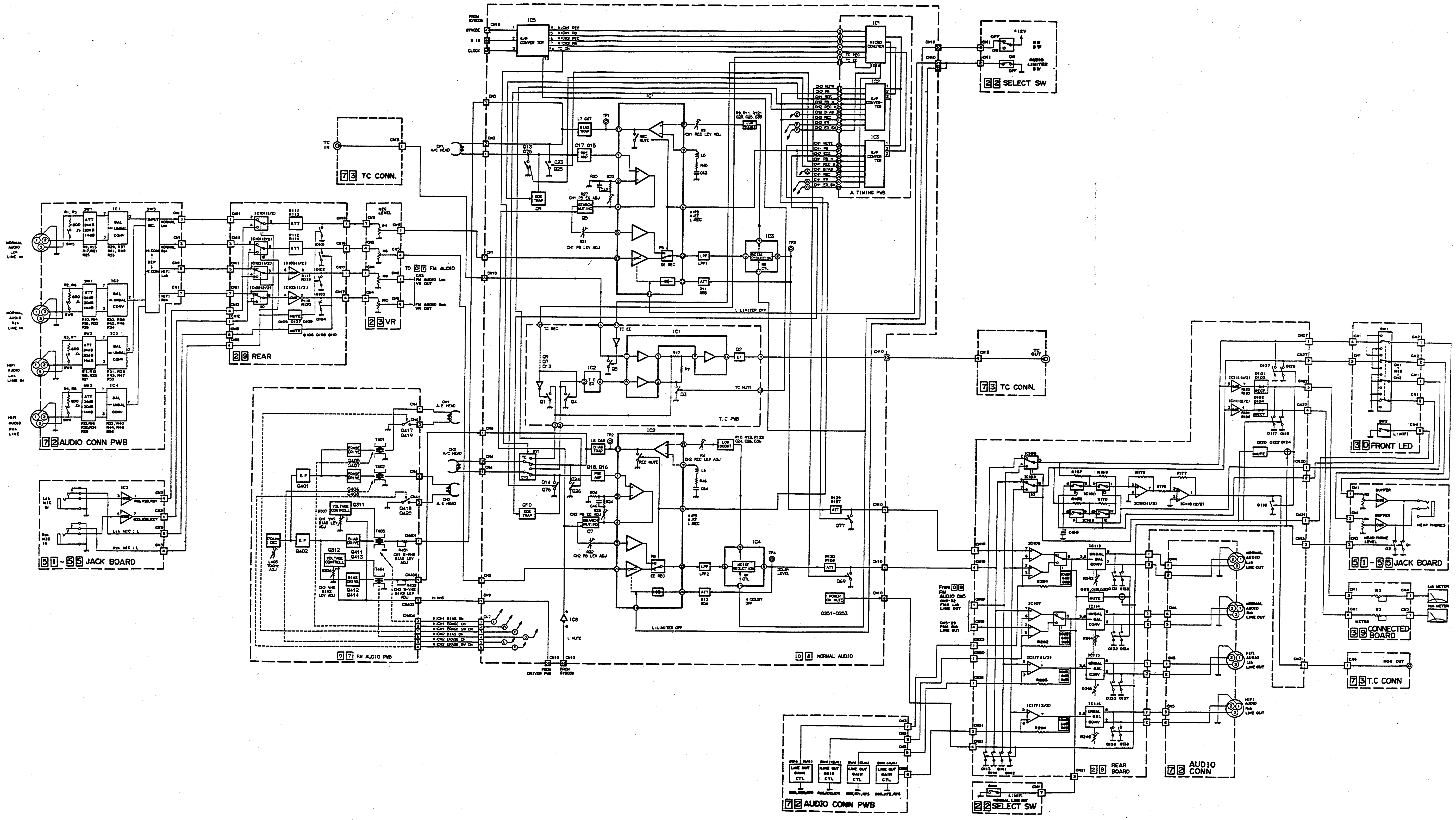
5

4

3

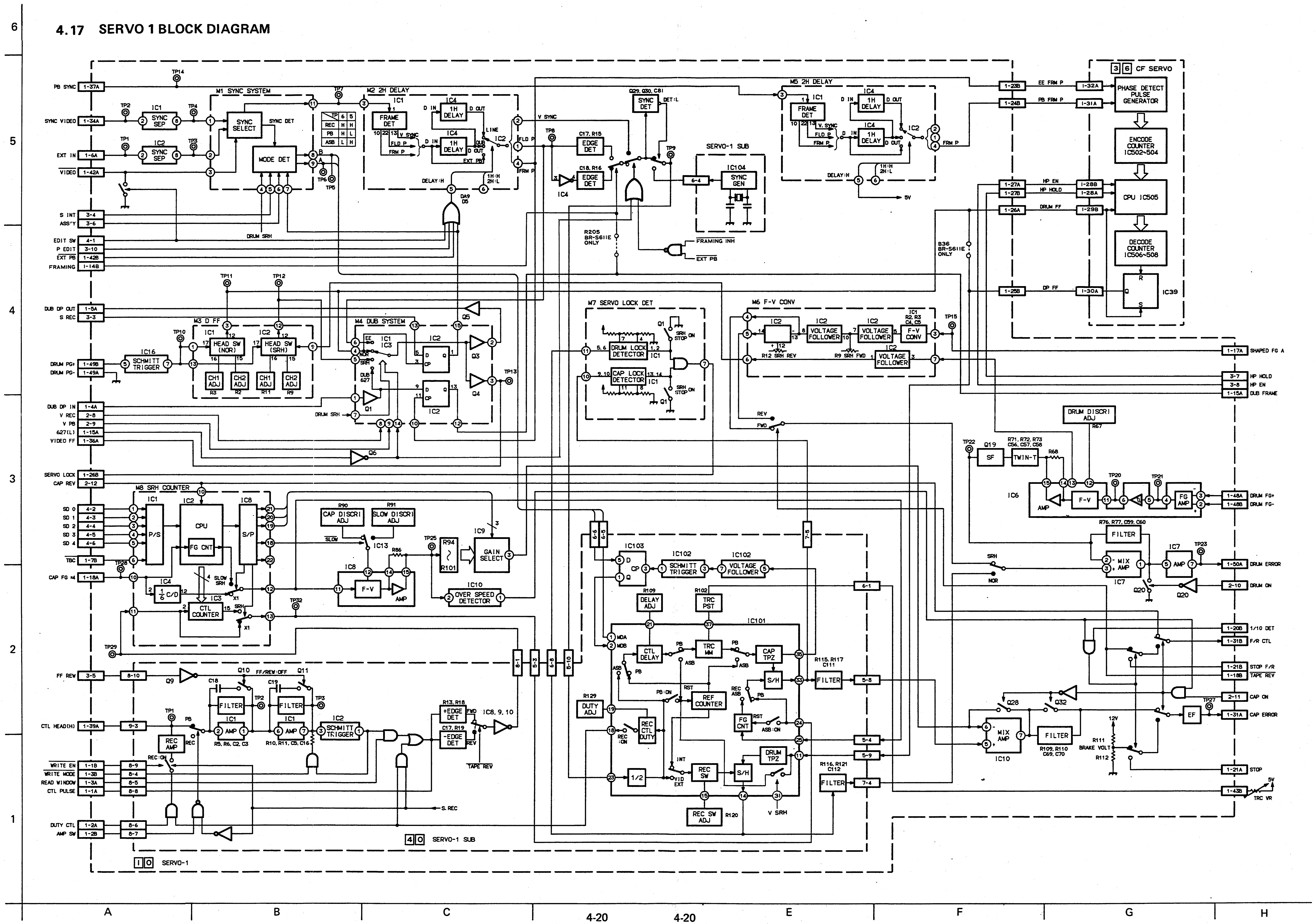
2

1

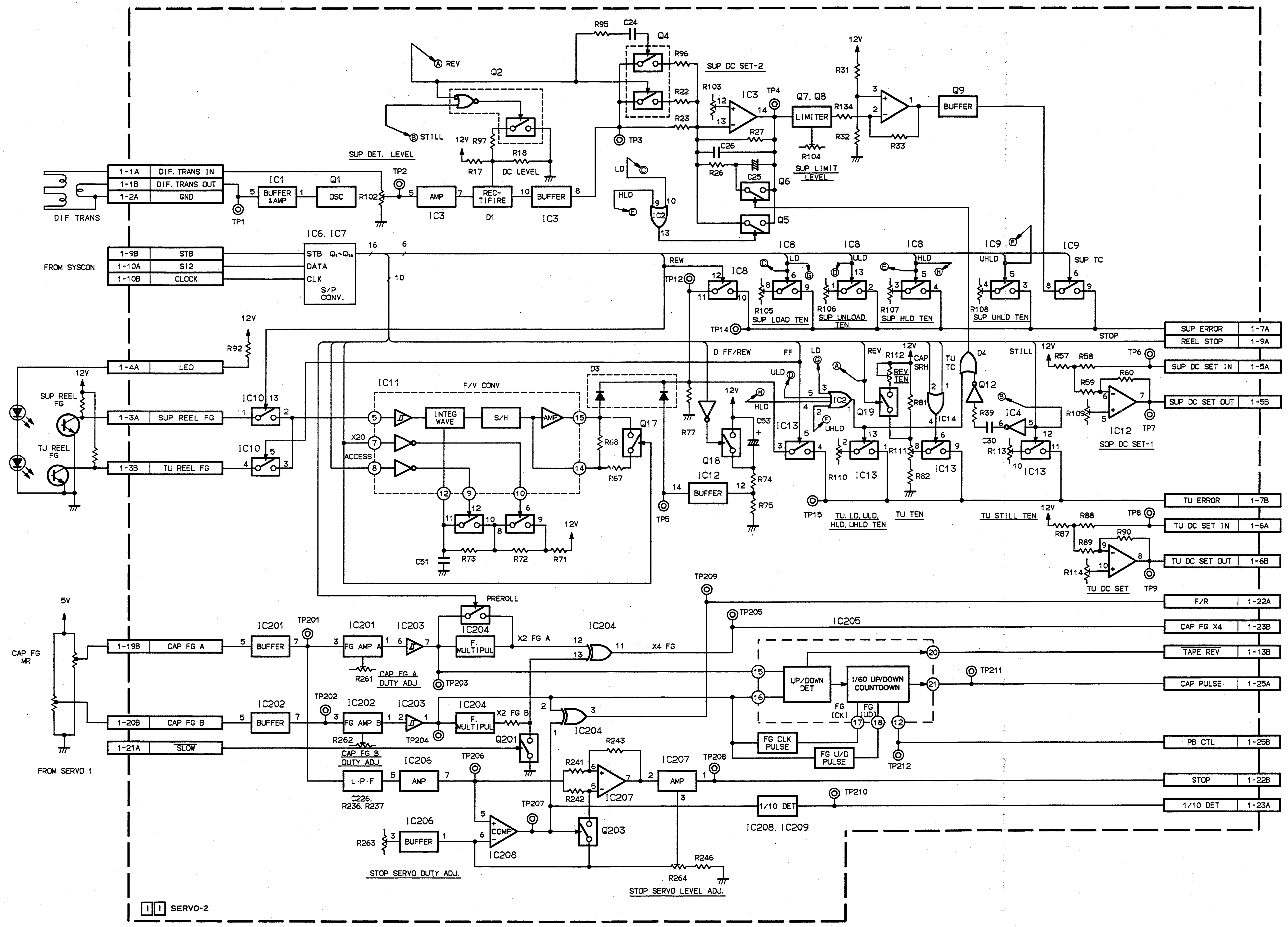

72 AUDIO CONN PWB
51~55 JACK BOARD
29 REAR
23 VR
73 TC CONN.
07 FM AUDIO PWB
08 NORMAL AUDIO
A. TIMING PWB
T.C PWB
22 SELECT SW
73 TC CONN.
30 FRONT LED
51~55 JACK BOARD
39 CONNECTED BOARD
73 T.C CONN
72 AUDIO CONN
29 REAR BOARD
72 AUDIO CONN PWB
22 SELECT SW

A B C D E F G H

4.17 SERVO 1 BLOCK DIAGRAM


6
5
4
3
2
1
A
B
C
D
E
F
G
H
PB SYNC
1-37A
SYNC VIDEO
1-34A
EXT IN
1-6A
VIDEO
1-42A
S INT
3-4
ASS'Y
3-6
EDIT SW
4-1
P EDIT
3-10
EXT PB
1-42B
FRAMING
1-14B
DUB DP OUT
1-5A
S REC
3-3
DRUM PG+
1-49B
DRUM PG-
1-49A
DUB DP IN
1-4A
V REC
2-8
V PB
2-9
627(L)
1-15A
VIDEO FF
1-36A
SERVO LOCK
1-26B
CAP REV
2-12
SD 0
4-2
SD 1
4-3
SD 2
4-4
SD 3
4-5
SD 4
4-6
TBC
1-7B
CAP FG ÷4
1-18A
FF REW
3-5
CTL HEAD(H)
1-39A
WRITE EN
1-1B
WRITE MODE
1-3B
READ WINDOW
1-3A
CTL PULSE
1-1A
DUTY CTL
1-2A
AMP SW
1-2B
TP14
M1 SYNC SYSTEM
IC1 SYNC SEP
IC2 SYNC SEP
SYNC SELECT
SYNC DET
MODE DET
TP1
TP2
TP3
TP4
TP5
TP6
TP7
DRUM SRH
M2 2H DELAY
FRAME DET
IC4 1H DELAY
D IN
D OUT
V SYNC
FLD P
FRM P
LINE
DUB
EXT PB
DELAY:H
1H:H
2H:L
DA9 D5
TP8
C17, R15 EDGE DET
C18, R16 EDGE DET
IC4
Q29, Q30, C81 SYNC DET
DET:L
TP9
SERVO-1 SUB
6-4
IC104 SYNC GEN
R205 BR-S611E ONLY
FRAMING INH
EXT PB
M5 2H DELAY
5V
3 6 CF SERVO
EE FRM P
PB FRM P
1-23B
1-24B
1-32A
1-31A
PHASE DETECT PULSE GENERATOR
ENCODE COUNTER IC502~504
CPU IC505
DECODE COUNTER IC506~508
IC39
HP EN
HP HOLD
DRUM FF
DP FF
1-27A
1-27B
1-26A
1-25B
1-28B
1-28A
1-29B
1-30A
B36 BR-S611E ONLY
TP11
TP12
M3 D FF
TP10
IC16 SCHMITT TRIGGER
HEAD SW (NOR)
HEAD SW (SRH)
CH1 ADJ
CH2 ADJ
R3
R2
R11
R9
M4 DUB SYSTEM
EE
NOR
SRH
DUB 627
IC3
Q1
Q3
Q4
Q5
Q6
TP13
M7 SERVO LOCK DET
DRUM LOCK DETECTOR
CAP LOCK DETECTOR
SRH ON
STOP ON
M6 F-V CONV
VOLTAGE FOLLOWER
F-V CONV
TP15
R12 SRH REV
R9 SRH FWD
REV
FWD
SHAPED FG A
1-17A
HP HOLD
3-7
HP EN
3-8
DUB FRAME
1-15A
DRUM DISCRI ADJ
R67
TP22
Q19 SF
R71, R72, R73 C56, C57, C58 TWIN-T
R68
TP20
TP21
IC6
AMP
F-V
FG AMP
DRUM FG+
1-48A
DRUM FG-
1-48B
R76, R77, C59, C60 FILTER
IC7
MIX AMP
TP23
DRUM ERROR
1-50A
DRUM ON
2-10
Q20
SRH
NOR
M8 SRH COUNTER
P/S
CPU
FG CNT
S/P
IC4 1/6 C/D
IC3 CTL COUNTER
SLOW SRH
X1
TP28
TP29
TP32
R90 CAP DISCRI ADJ
R91 SLOW DISCRI ADJ
SLOW
IC13
R86
IC8 F-V AMP
TP25
R94
R101
IC9 GAIN SELECT
IC10 OVER SPEED DETECTOR
IC103
IC102 SCHMITT TRIGGER
IC102 VOLTAGE FOLLOWER
R109 DELAY ADJ
R102 TRC PST
IC101
MDA
MDB
CTL DELAY
TRC MM
CAP TPZ
S/H
ASB
PB
PB:ON
RST
REF COUNTER
FG CNT
ASB:ON
R115, R117 C111 FILTER
R129 DUTY ADJ
REC CTL DUTY
REC:ON
INT
VID EXT
1/2
REC SW
REC SW ADJ
R120
DRUM TPZ
V SRH
R116, R121 C112 FILTER
6-6
6-5
7-5
6-1
5-8
5-4
5-9
7-4
8-1
5-3
6-8
5-10
8-10
9-3
8-9
8-4
8-5
8-8
8-6
8-7
Q9
Q10 FF/REW:OFF
Q11
C18
C19
FILTER
IC1 AMP
R5, R6, C2, C3
R10, R11, C5, C16
IC2 SCHMITT TRIGGER
REC AMP
REC:ON
R13, R18 +EDGE DET
C17, R19 -EDGE DET
IC8, 9, 10
TAPE REV
S.REC
4 0 SERVO-1 SUB
1 0 SERVO-1
1/10 DET
1-20B
F/R CTL
1-31B
STOP F/R
1-21B
TAPE REV
1-18B
CAP ON
2-11
CAP ERROR
1-31A
STOP
1-21A
TRC VR
1-43B
Q28
Q32
TP27
EF
MIX AMP
IC10
FILTER
R109, R110 C69, C70
12V
R111 BRAKE VOLT
R112

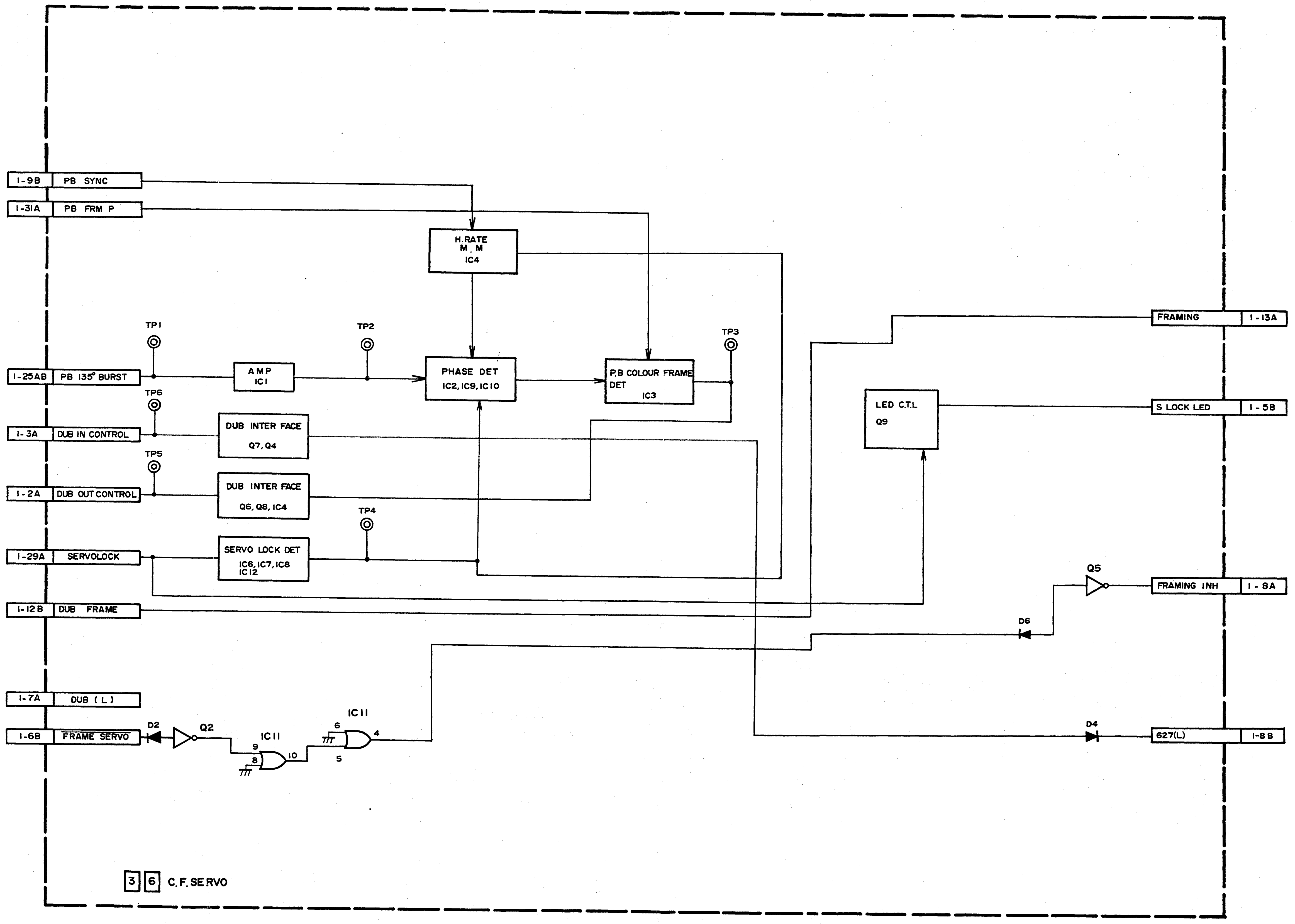
4.18 SERVO 2 BLOCK DIAGRAM



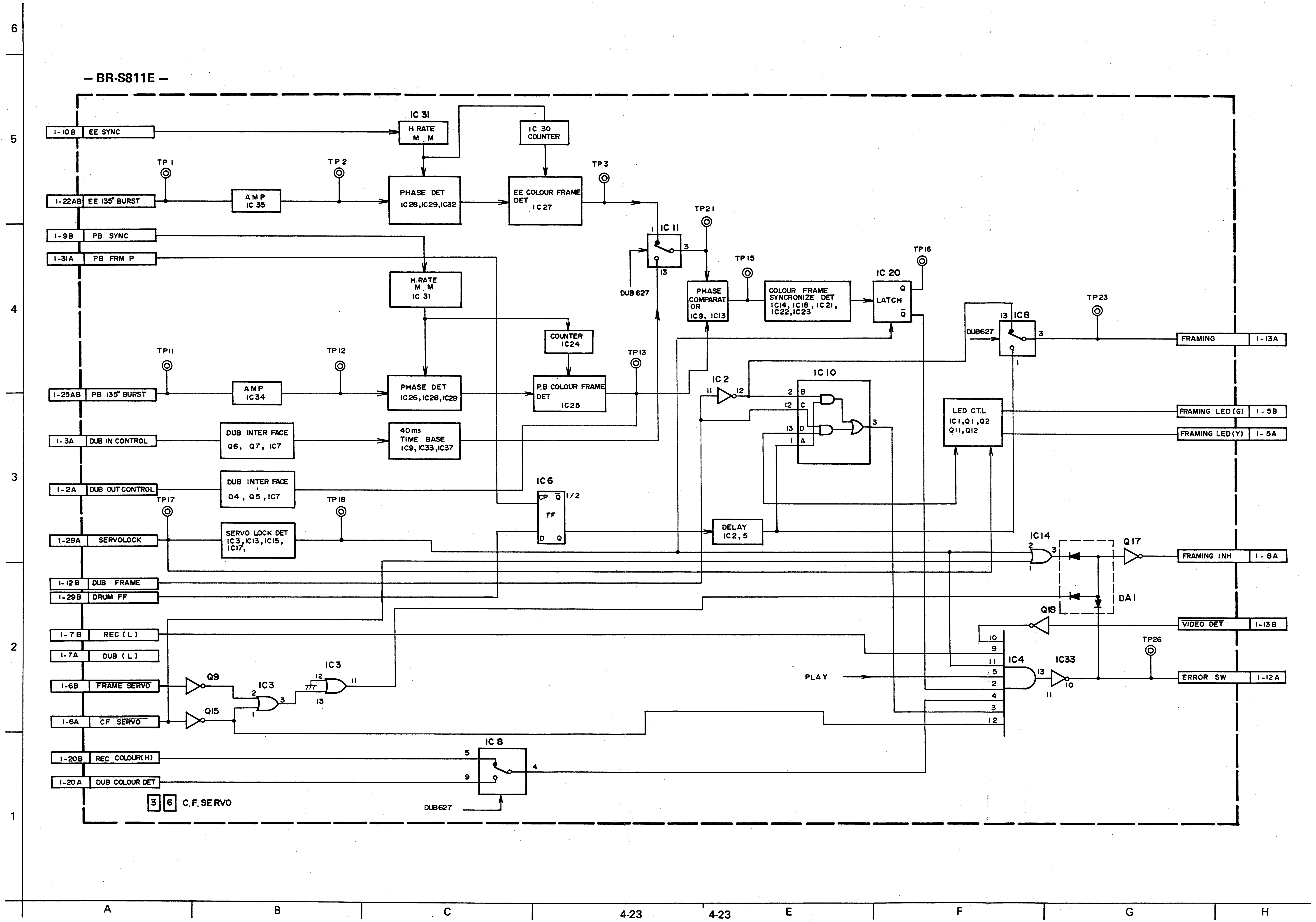
DIF TRANS
1-1A DIF. TRANS IN
1-1B DIF. TRANS OUT
1-2A GND
TP1
IC1 BUFFER &AMP
Q1 OSC
R102
SUP DET. LEVEL
TP2
AMP IC3
REC-TIFIRE D1
BUFFER IC3
R95 C24 Q4 R96 R22 R23
SUP DC SET-2
REV
Q2
STILL
12V R97 R18 R17 DC LEVEL
TP3
R103 IC3 TP4 R27 C26 R26 C25 Q6 Q5
Q7, Q8 LIMITER R134 R104 SUP LIMIT LEVEL
12V R31 R32 R33 Q9 BUFFER
LD HLD IC2
FROM SYSCON
1-9B STB
1-10A SI2
1-10B CLOCK
IC6, IC7 STB Q1~Q16 DATA CLK S/P CONV.
REW TP12 IC8 TP14
IC8 LD R105 SUP LOAD TEN
IC8 ULD R106 SUP UNLOAD TEN
IC8 HLD R107 SUP HLD TEN
IC9 UHLD R108 SUP UHLD TEN
IC9 SUP TC
STOP
SUP ERROR 1-7A
REEL STOP 1-9A
SUP DC SET IN 1-5A
SUP DC SET OUT 1-5B
12V R92
1-4A LED
SUP REEL FG
TU REEL FG
1-3A SUP REEL FG
1-3B TU REEL FG
IC10
IC11 F/V CONV
INTEG WAVE S/H AMP
X20 ACCESS
D3 R68 Q17 R67
C51 R73 R72 R71 12V
TP5
D FF/REW FF
R77 Q18 HLD C53 R74 R75
IC12 BUFFER
IC13 UHLD R110 IC13 R111 R82 IC13
TP15 TU, LD, ULD, HLD, UHLD TEN
TU TEN
REV R112 CAP SRH REV TEN Q19 R81 IC14 TU TC D4 Q12
STILL R39 C30 IC4 R113 IC13
TU STILL TEN
12V R57 R58 TP6 R59 R60 R109 IC12 TP7 SOP DC SET-1
TU ERROR 1-7B
12V R88 TP8 R87 R89 R90 R114 TU DC SET TP9
TU DC SET IN 1-6A
TU DC SET OUT 1-6B
TP209
F/R 1-22A
5V
CAP FG MR
1-19B CAP FG A
1-20B CAP FG B
1-21A SLOW
FROM SERVO 1
IC201 BUFFER TP201
IC201 FG AMP A R261 CAP FG A DUTY ADJ
IC203 PREROLL
IC204 F. MULTIPUL X2 FG A TP203
IC204 X4 FG
TP205 IC205
CAP FG X4 1-23B
TAPE REV 1-13B
UP/DOWN DET
1/60 UP/DOWN COUNTDOWN
FG (CK) FG (UD)
TP211
CAP PULSE 1-25A
IC202 BUFFER TP202
IC202 FG AMP B R262 CAP FG B DUTY ADJ
IC203 TP204
IC204 F. MULTIPUL X2 FG B Q201
IC204
FG CLK PULSE
FG U/D PULSE
TP212
PB CTL 1-25B
L·P·F C226, R236, R237
IC206 AMP TP206
R241 R243 R242 IC207
IC207 AMP TP208
STOP 1-22B
TP210
1/10 DET IC208, IC209
1/10 DET 1-23A
TP207 Q203
IC206 BUFFER R263
COMP IC208
STOP SERVO DUTY ADJ.
R246 R264
STOP SERVO LEVEL ADJ.
1 I SERVO-2

4.19 COLOUR FRAME SERVO BLOCK DIAGRAM

— BR-S611E —

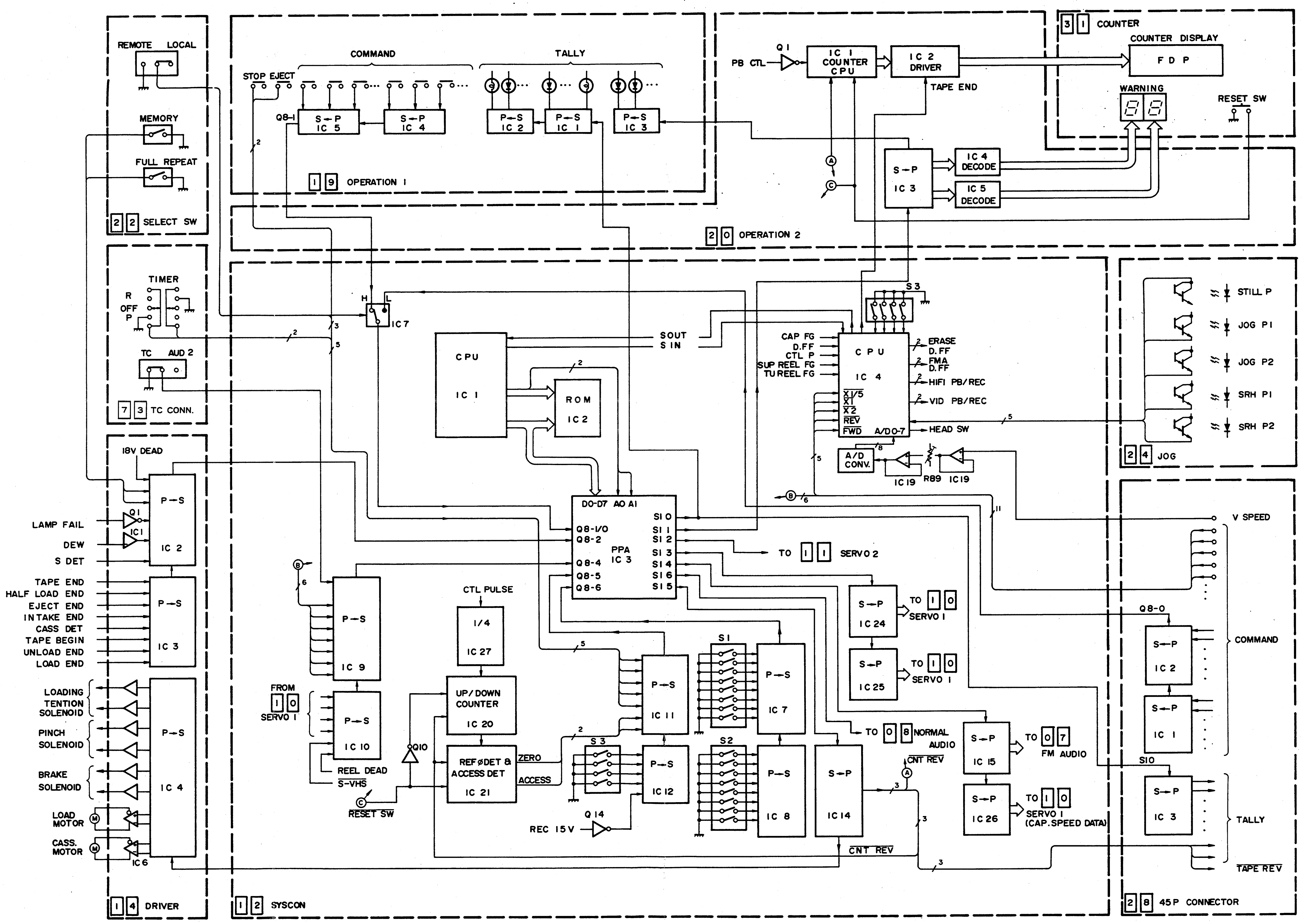

1-9B PB SYNC
1-31A PB FRM P
H.RATE M.M IC4
TP1
TP2
TP3
1-25AB PB 135° BURST
AMP IC1
PHASE DET IC2, IC9, IC10
P.B COLOUR FRAME DET IC3
TP6
1-3A DUB IN CONTROL
DUB INTER FACE Q7, Q4
TP5
1-2A DUB OUT CONTROL
DUB INTER FACE Q6, Q8, IC4
TP4
1-29A SERVOLOCK
SERVO LOCK DET IC6, IC7, IC8 IC12
1-12B DUB FRAME
1-7A DUB (L)
1-6B FRAME SERVO
D2
Q2
IC11
9
8
10
IC11
6
5
4
FRAMING 1-13A
LED C.T.L Q9
S LOCK LED 1-5B
Q5
FRAMING INH 1-8A
D6
D4
627(L) 1-8B
3 6 C.F. SERVO

— BR-S811E —



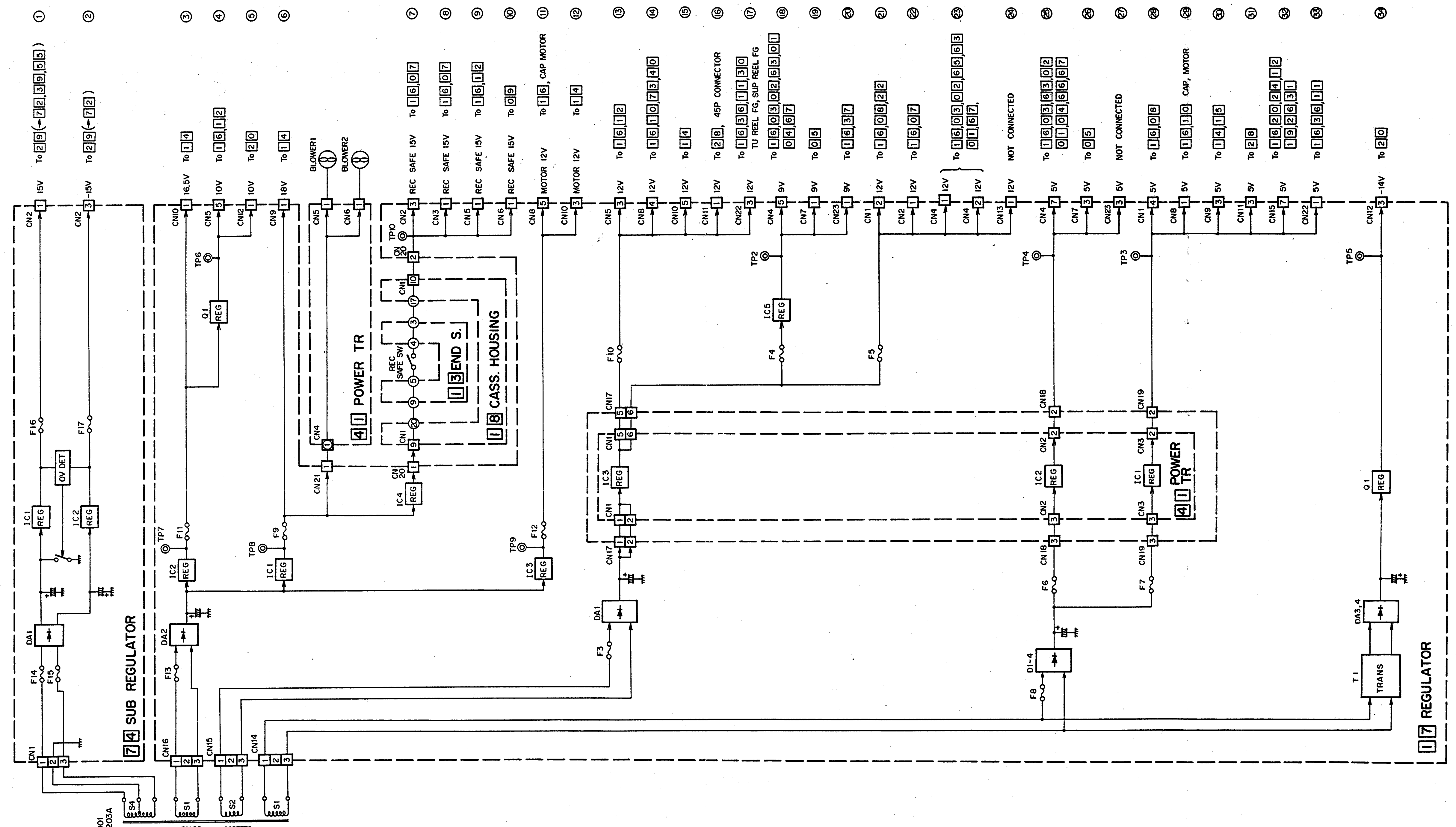
6
5
4
3
2
1
A
B
C
E
F
G
H
1-10B EE SYNC
1-22AB EE 135° BURST
1-9B PB SYNC
1-31A PB FRM P
1-25AB PB 135° BURST
1-3A DUB IN CONTROL
1-2A DUB OUT CONTROL
1-29A SERVOLOCK
1-12B DUB FRAME
1-29B DRUM FF
1-7B REC (L)
1-7A DUB (L)
1-6B FRAME SERVO
1-6A CF SERVO
1-20B REC COLOUR(H)
1-20A DUB COLOUR DET
TP1
TP2
TP3
TP11
TP12
TP13
TP15
TP16
TP17
TP18
TP21
TP23
TP26
IC 31 H RATE M.M
IC 30 COUNTER
AMP IC 35
PHASE DET IC28, IC29, IC32
EE COLOUR FRAME DET IC 27
H.RATE M.M IC 31
COUNTER IC24
AMP IC34
PHASE DET IC26, IC28, IC29
P.B COLOUR FRAME DET IC25
DUB INTER FACE Q6, Q7, IC7
40ms TIME BASE IC9, IC33, IC37
DUB INTER FACE Q4, Q5, IC7
SERVO LOCK DET IC3, IC13, IC15, IC17,
IC6 1/2 FF CP Q̄ D Q
IC 11
DUB 627
PHASE COMPARATOR IC9, IC13
COLOUR FRAME SYNCRONIZE DET IC14, IC18, IC21, IC22, IC23
IC 20 LATCH Q Q̄
IC8
DUB627
IC2
IC10
DELAY IC2, 5
LED C.T.L IC1, Q1, Q2 Q11, Q12
IC14
Q17
DA1
Q18
IC4
IC33
PLAY
Q9
Q15
IC3
IC 8
DUB627
FRAMING 1-13A
FRAMING LED (G) 1-5B
FRAMING LED (Y) 1-5A
FRAMING INH 1-8A
VIDEO DET 1-13B
ERROR SW 1-12A
3 6 C.F. SERVO

4.20 SYSCON BLOCK DIAGRAM

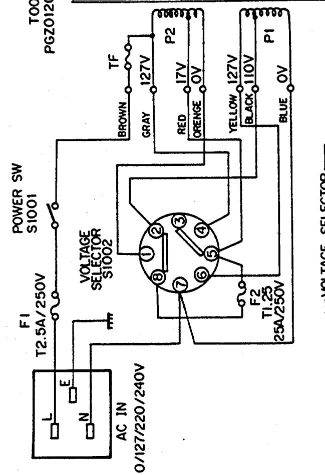


REMOTE LOCAL
MEMORY
FULL REPEAT
22 SELECT SW
TIMER
R
OFF
P
TC AUD 2
73 TC CONN.
18V DEAD
P→S IC 2
LAMP FAIL
Q1
IC1
DEW
S DET
TAPE END
HALF LOAD END
EJECT END
INTAKE END
CASS DET
TAPE BEGIN
UNLOAD END
LOAD END
P→S IC 3
LOADING
TENTION SOLENOID
PINCH SOLENOID
BRAKE SOLENOID
LOAD MOTOR
CASS. MOTOR
IC6
P→S IC 4
14 DRIVER
COMMAND
TALLY
STOP EJECT
Q8-1
S→P IC 5
S→P IC 4
P→S IC 2
P→S IC 1
P→S IC 3
19 OPERATION 1
Q1
PB CTL
IC 1 COUNTER CPU
IC 2 DRIVER
TAPE END
S→P IC 3
IC 4 DECODE
IC 5 DECODE
20 OPERATION 2
31 COUNTER
COUNTER DISPLAY
FDP
WARNING
RESET SW
H L
IC7
CPU IC 1
ROM IC2
SOUT
S IN
CAP FG
D.FF
CTL P
SUP REEL FG
TU REEL FG
CPU IC 4
X1/5
X1
X2
REV
FWD
A/D0-7
ERASE
D.FF
FMA
D.FF
HIFI PB/REC
VID PB/REC
HEAD SW
S3
A/D CONV.
IC19
R89
IC19
D0-D7 A0 A1
Q8-1/0
Q8-2
Q8-4
Q8-5
Q8-6
PPA IC 3
SI 0
SI 1
SI 2
SI 3
SI 4
SI 6
SI 5
TO 11 SERVO 2
S→P IC24
TO 10 SERVO 1
S→P IC25
TO 10 SERVO 1
P→S IC 9
FROM 10 SERVO 1
P→S IC 10
REEL DEAD
S-VHS
RESET SW
CTL PULSE
1/4 IC 27
UP/DOWN COUNTER IC 20
Q10
REFøDET & ACCESS DET IC 21
ZERO
ACCESS
S3
Q 14
REC 15V
P→S IC 11
P→S IC 12
S1
S2
P→S IC 7
P→S IC 8
S→P IC14
TO 08 NORMAL AUDIO
CNT REV
CNT REV
S→P IC 15
TO 07 FM AUDIO
S→P IC 26
TO 10 SERVO 1 (CAP. SPEED DATA)
12 SYSCON
STILL P
JOG P1
JOG P2
SRH P1
SRH P2
24 JOG
V SPEED
Q8-0
S→P IC 2
S→P IC 1
COMMAND
SI0
S→P IC 3
TALLY
TAPE REV
28 45P CONNECTOR

4.21 REGULATOR BLOCK DIAGRAM



① To 29 (←72, 39, 55) 15V CN2
② To 29 (←72) -15V CN2
③ To 14 16.5V CN10
④ To 16, 12 10V CN5
⑤ To 20 10V CN12
⑥ To 14 18V CN9
BLOWER1
BLOWER2
CN5
CN6
⑦ To 16, 07 REC SAFE 15V CN2
⑧ To 16, 07 REC SAFE 15V CN3
⑨ To 16, 12 REC SAFE 15V CN5
⑩ To 09 REC SAFE 15V CN6
⑪ To 16, CAP MOTOR MOTOR 12V CN8
⑫ To 14 MOTOR 12V CN10
⑬ To 16, 12 12V CN5
⑭ To 16, 10, 73, 40 12V CN8
⑮ To 14 12V CN10
⑯ To 28, 45P CONNECTOR 12V CN11
⑰ To 16, 36, 11, 30 TU REEL FG, SUP REEL FG 12V CN22
⑱ To 16, 03, 02, 63, 01, 04, 67 9V CN4
⑲ To 05 9V CN7
⑳ To 16, 37 9V CN23
㉑ To 16, 08, 22 12V CN1
㉒ To 16, 07 12V CN2
㉓ To 16, 03, 02, 65, 63, 01, 67, 12V CN4
㉔ NOT CONNECTED 12V CN13
㉕ To 16, 03, 63, 02, 01, 04, 66, 67 5V CN4
㉖ To 05 5V CN7
㉗ NOT CONNECTED 5V CN23
㉘ To 16, 08 5V CN1
㉙ To 16, 10 CAP. MOTOR 5V CN8
㉚ To 14, 15 5V CN9
㉛ To 28 5V CN11
㉜ To 16, 20, 24, 12, 19, 26, 31 5V CN15
㉝ To 16, 36, 11 5V CN22
㉞ To 20 -14V CN12
TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10
Q1 REG
IC1 REG
IC2 REG
IC3 REG
IC4 REG
IC5 REG
OV DET
DA1
DA2
DA3, 4
D1-4
T1 TRANS
F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 F15 F16 F17
CN1 CN14 CN15 CN16 CN17 CN18 CN19 CN20 CN21
REC SAFE SW
41 POWER TR
13 END S.
18 CASS. HOUSING
74 SUB REGULATOR
41 POWER TR
17 REGULATOR



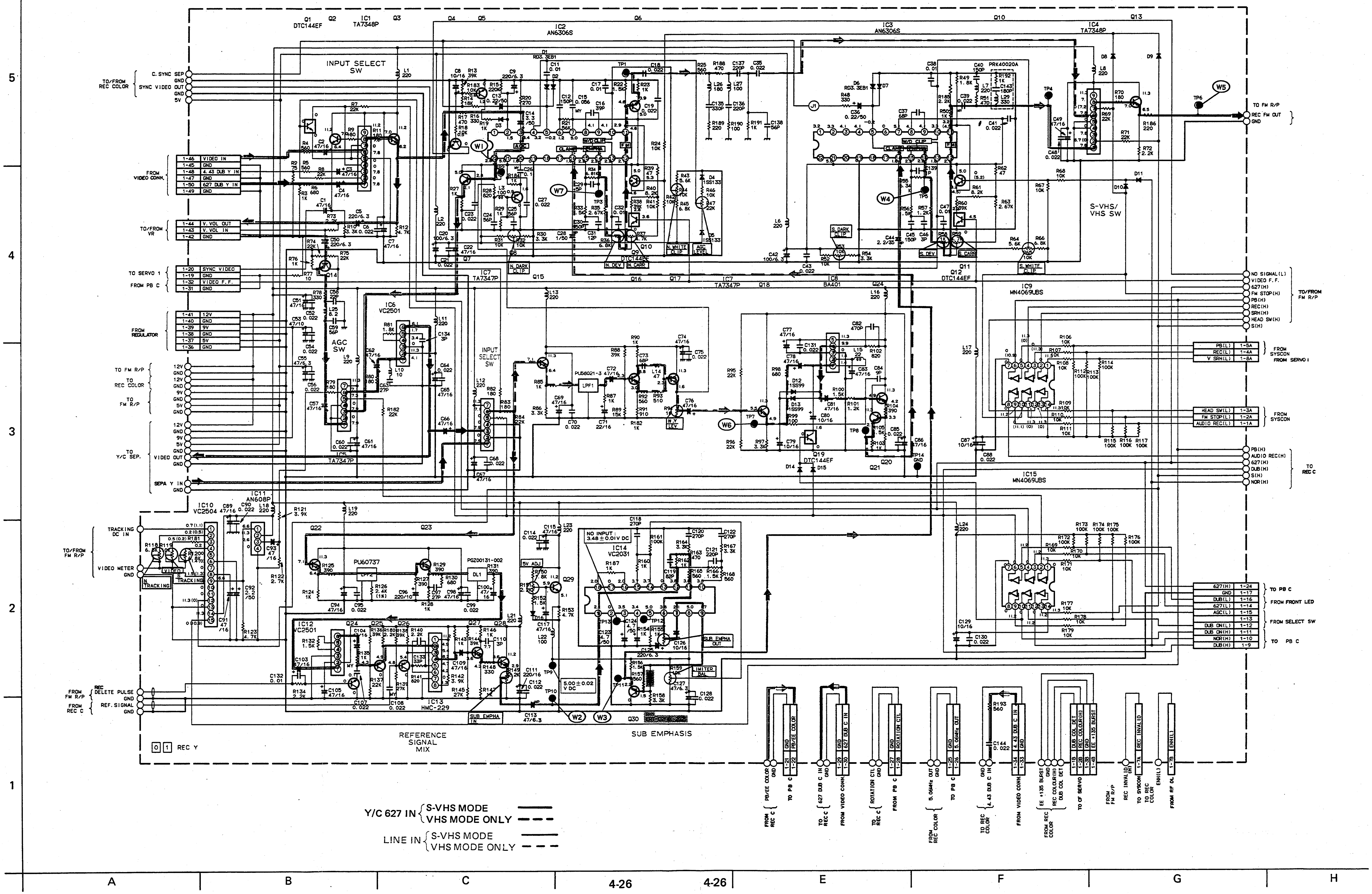
S4
S1
S2
S1
T001
PGZ01203A
P2
P1
TF
127V
17V
0V
127V
110V
0V
BROWN
GRAY
RED
ORENGE
YELLOW
BLACK
BLUE
POWER SW
S1001
VOLTAGE SELECTOR
S1002
F1
T2.5A/250V
F2
T1.25A/250V
L
E
N
AC IN
110/127/220/240V

VOLTAGE SELECTOR

110V	②④ : ⑤⑦
130V	④⑥ : ①⑦
220V	②⑧ : ③⑤
240V	⑥⑧ : ①③

Board No.	Board Name	Reference No.
01	REC Y	⑱㉓㉕
02	PB Y	⑱㉓㉕
03	PB C	⑱㉓㉕
04	Y/C SEP	⑱㉕
05	VIDEO P/R	⑲㉖
07	FM AUDIO	⑦⑧㉒
08	NOR. AUDIO	㉑㉘
09	ERASE / PREAMP	⑩
10	SERVO 1	⑭㉙
11	SERVO 2	⑰㉝
12	SYSCON	④⑨⑬㉜
14	DRIVER	③⑥⑫⑮㉚
15	LED	㉚
16	MOTHER	④⑦⑧⑨⑪⑬⑭⑰⑱ ⑳㉑㉒㉓㉕㉘㉙㉜㉝
19	OPERATION 1	㉜
20	OPERATION 2	⑤㉜㉞
22	SELECT SWITCH	㉑
24	JOG	㉜
26	DIRECTION LED	㉜
28	45P. CONNECTOR	⑯㉛
29	REAR	①②
30	FRONT LED	⑰
31	COUNTER	㉜
36	CF SERVO	⑰㉝
37	RF DL / C ENH	⑳
39	CONNECTED	①
40	SERVO 1 SUB	⑭
55	VR JACK	①
63	CTC	⑱㉓㉕
65	Y 2H DELAY	㉓
66	REC C	㉕
67	FM R / P	⑱㉓㉕
	F. AUTO	㉓
72	AUDIO CONN.	①②
73	TC CONN.	⑭
	CAPSTAN MOTOR	⑪㉙
	45P CONNECTOR	⑯
	TU REEL FG	⑰
	SUP REEL FG	⑰

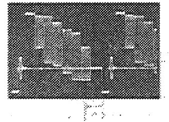
4.22 REC Y SCHEMATIC DIAGRAM


IC1 TA7348P
IC2 AN6306S
IC3 AN6306S
IC4 TA7348P
IC5 TA7347P
IC6 VC2501
IC7 TA7347P
IC8 BA401
IC9 MN4069UBS
IC10 VC2504
IC11 AN608P
IC12 VC2501
IC13 HMC-229
IC14 VC2031
IC15 MN4069UBS
Q1 DTC144EF
Q9 DTC144EF
Q12 DTC144EF
Q19 DTC144EF
INPUT SELECT SW
AGC SW
INPUT SELECT SW
S-VHS/VHS SW
REFERENCE SIGNAL MIX
SUB EMPHASIS
TO/FROM REC COLOR
FROM VIDEO CONN.
TO/FROM VR
TO SERVO 1
FROM PB C
FROM REGULATOR
TO FM R/P
TO REC COLOR
TO FM R/P
TO Y/C SEP.
TO/FROM FM R/P
FROM FM R/P
FROM REC C
TO FM R/P
TO/FROM FM R/P
FROM SYSCON FROM SERVO I
FROM SYSCON
TO REC C
TO PB C
FROM FRONT LED
FROM SELECT SW
TO PB C
W1
W2
W3
W4
W5
W6
W7
0 1 REC Y
Y/C 627 IN { S-VHS MODE / VHS MODE ONLY
LINE IN { S-VHS MODE / VHS MODE ONLY
1
2
3
4
5
6
A
B
C
E
F
G
H

4.23 REC Y CIRCUIT BOARD

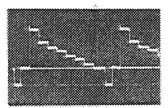
REC MODE

W1



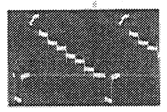
TP2
0.56 Vp-p

W2



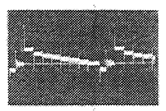
TP10
0.4 Vp-p
[S-VHS]

W3



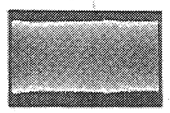
TP11
0.3 Vp-p
[S-VHS]

W4



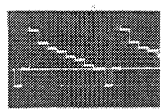
TP5
0.8 Vp-p
[S-VHS]

W5



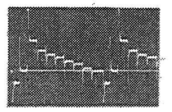
TP6
[S-VHS] : 0.5 Vp-p
[VHS] : 0.3 Vp-p

W6

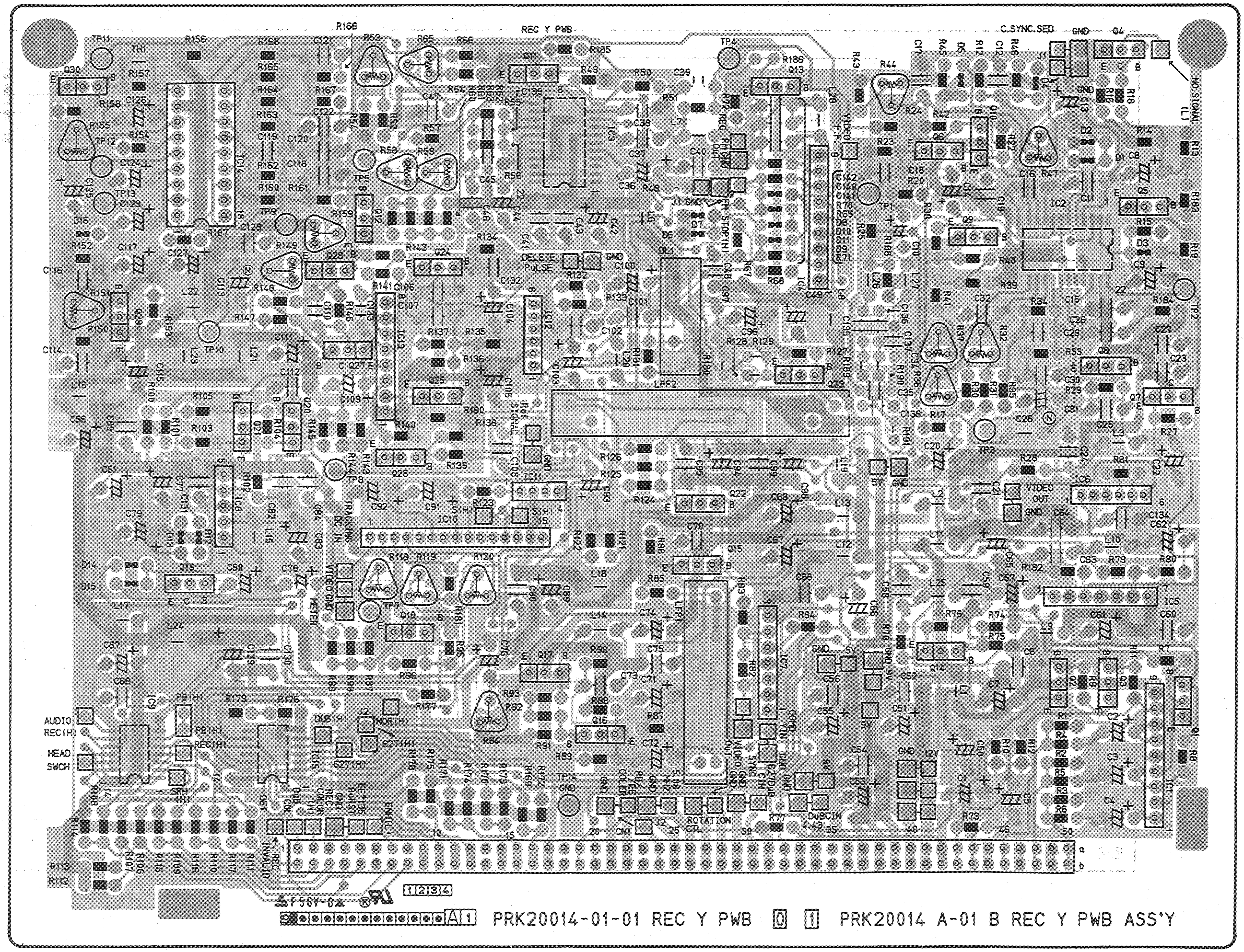


TP7
0.4 Vp-p
[VHS]

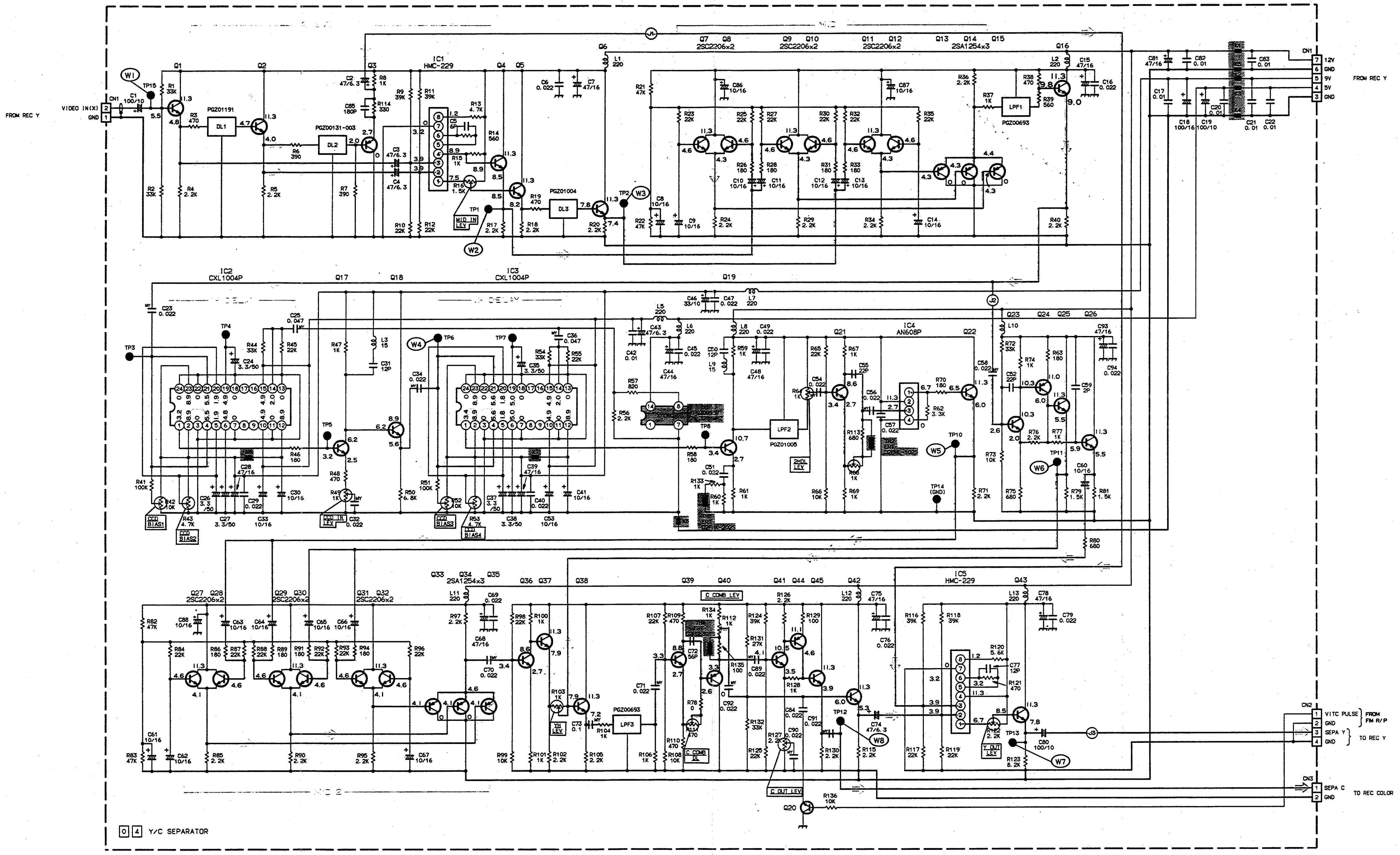
W7



TP3
6.7 Vp-p
[VHS]


REC Y PWB
C.SYNC.SED
GND
NO.SIGNAL (L)
VIDEO F.F.
REC FM OUT
GND
FM STOP (H)
DELETE PULSE
Ref SIGNAL
TRACKING DC IN
VIDEO GND
METER
VIDEO OUT
GND
5V
9V
12V
AUDIO REC (H)
HEAD SWCH
PB (H)
REC (H)
DUB (H)
NOR (H)
627 (H)
SRH (H)
ROTATION CTL
DuBCIN 4.43
COMB Y IN
627DUB
SYNC C IN
VIDEO OUT
REC INVALID
ENV (L)
EE+35 BURST
REC COLOR
DUB COL
DET
F56V-0
PRK20014-01-01 REC Y PWB
PRK20014 A-01 B REC Y PWB ASS'Y

4.24 Y/C SEPARATOR SCHEMATIC DIAGRAM

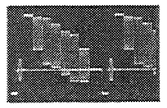
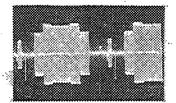
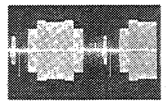
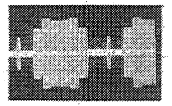
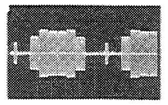
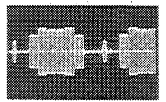
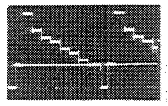
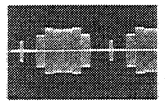

FROM REC Y
VIDEO IN(X)
GND
CN1
W1
TP15
Q1
Q2
Q3
Q4
Q5
Q6
Q7 Q8 2SC2206x2
Q9 Q10 2SC2206x2
Q11 Q12 2SC2206x2
Q13 Q14 Q15 2SA1254x3
Q16
IC1 HMC-229
PGZ01191
DL1
DL2
PGZ00131-003
PGZ01004
DL3
TP1
MID IN LEV
W2
TP2
W3
LPF1
PGZ00693
12V
GND
9V
5V
GND
FROM REC Y
IC2 CXL1004P
IC3 CXL1004P
Q17
Q18
Q19
TP3
TP4
TP5
W4
TP6
TP7
CCD BIAS1
CCD BIAS2
CCD IN LEV
CCD BIAS3
CCD BIAS4
IC4 AN608P
Q21
Q22
Q23 Q24 Q25 Q26
LPF2
PGZ01005
2HOL LEV
TP8
TP10
W5
TP14 (GND)
TP11
W6
Q27 Q28 2SC2206x2
Q29 Q30 2SC2206x2
Q31 Q32 2SC2206x2
Q33 Q34 Q35 2SA1254x3
Q36 Q37
Q38
Q39
Q40
Q41 Q44 Q45
Q42
IC5 HMC-229
Q43
C COMB LEV
VH LEV
LPF3
PGZ00693
C COMB DL
TP12
W8
C OUT LEV
Q20
Y OUT LEV
TP13
W7
CN2
VITC PULSE
GND
SEPA Y
GND
FROM FM R/P
TO REC Y
CN3
SEPA C
GND
TO REC COLOR
0 4 Y/C SEPARATOR

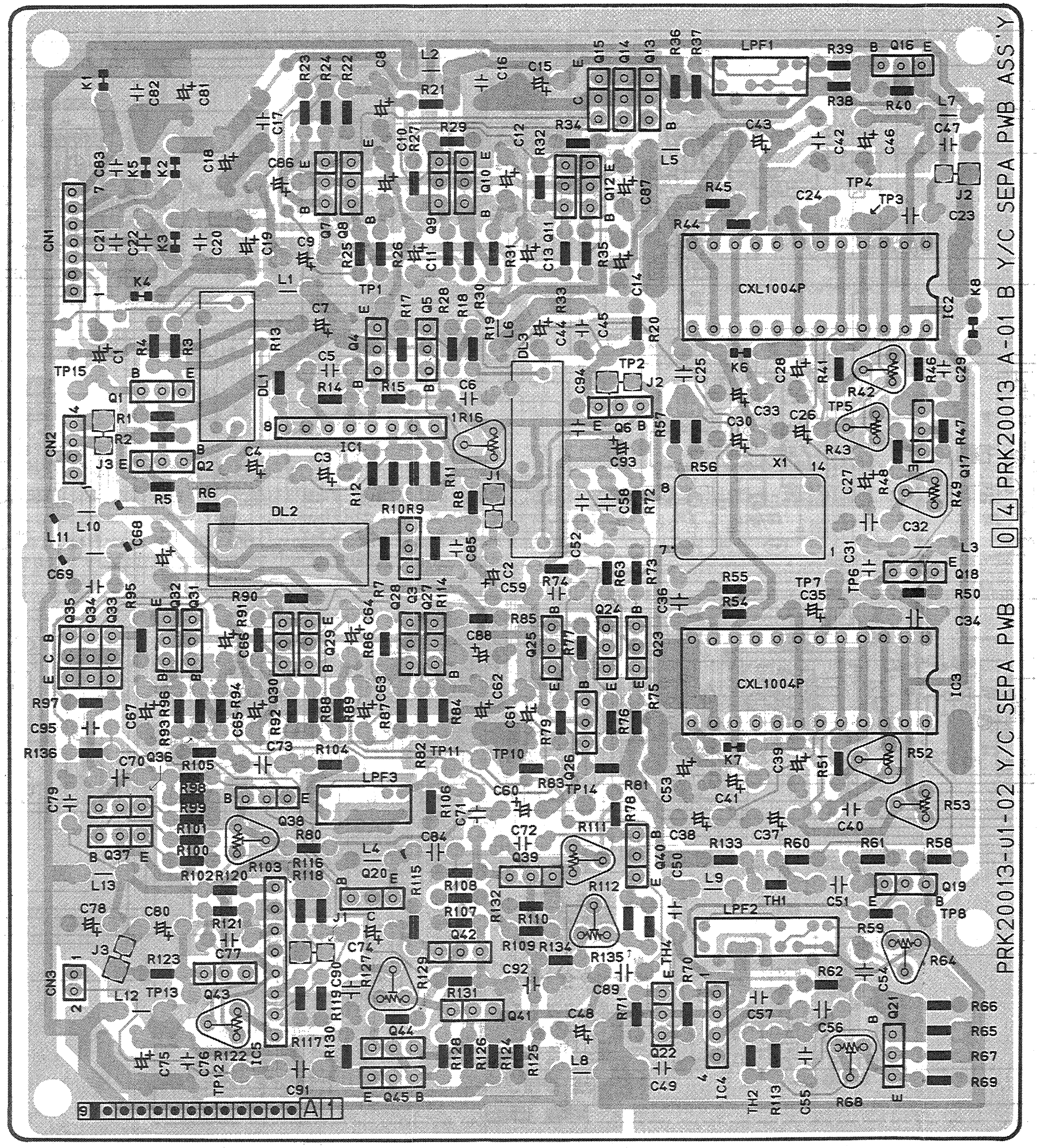
6
5
4
3
2
1

A B C 4-28 4-28 E F G H

4.25 Y/C SEPARATOR CIRCUIT BOARD

REC MODE

W1	W2
	
TP15 1.1 Vp-p	TP1 2.1 Vp-p
W3	**W4**
	
TP2 2.1 Vp-p	TP6 0.5 Vp-p
W5	**W6**
	
TP10 1.7 Vp-p	TP11 1.7 Vp-p
W7	**W8**
	
TP13 1.1 Vp-p	TP12 BURST: 0.3 Vp-p


PRK20013 A-01 B Y/C SEPA PWB ASS'Y
PRK20013-U1-02 Y/C SEPA PWB
0 4
CXL1004P
IC1
IC2
IC3
IC4
IC5
CN1
CN2
CN3
LPF1
LPF2
LPF3
DL1
DL2
DL3
X1
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP10
TP11
TP12
TP13
TP14
TP15
J1
J2
J3
K1
K2
K3
K4
K5
K6
K7
K8
TH1
TH2
TH4
A1
9

6 5 4 3 2 1

A B C E F G H

6

4.26 REC COLOUR SCHEMATIC DIAGRAM

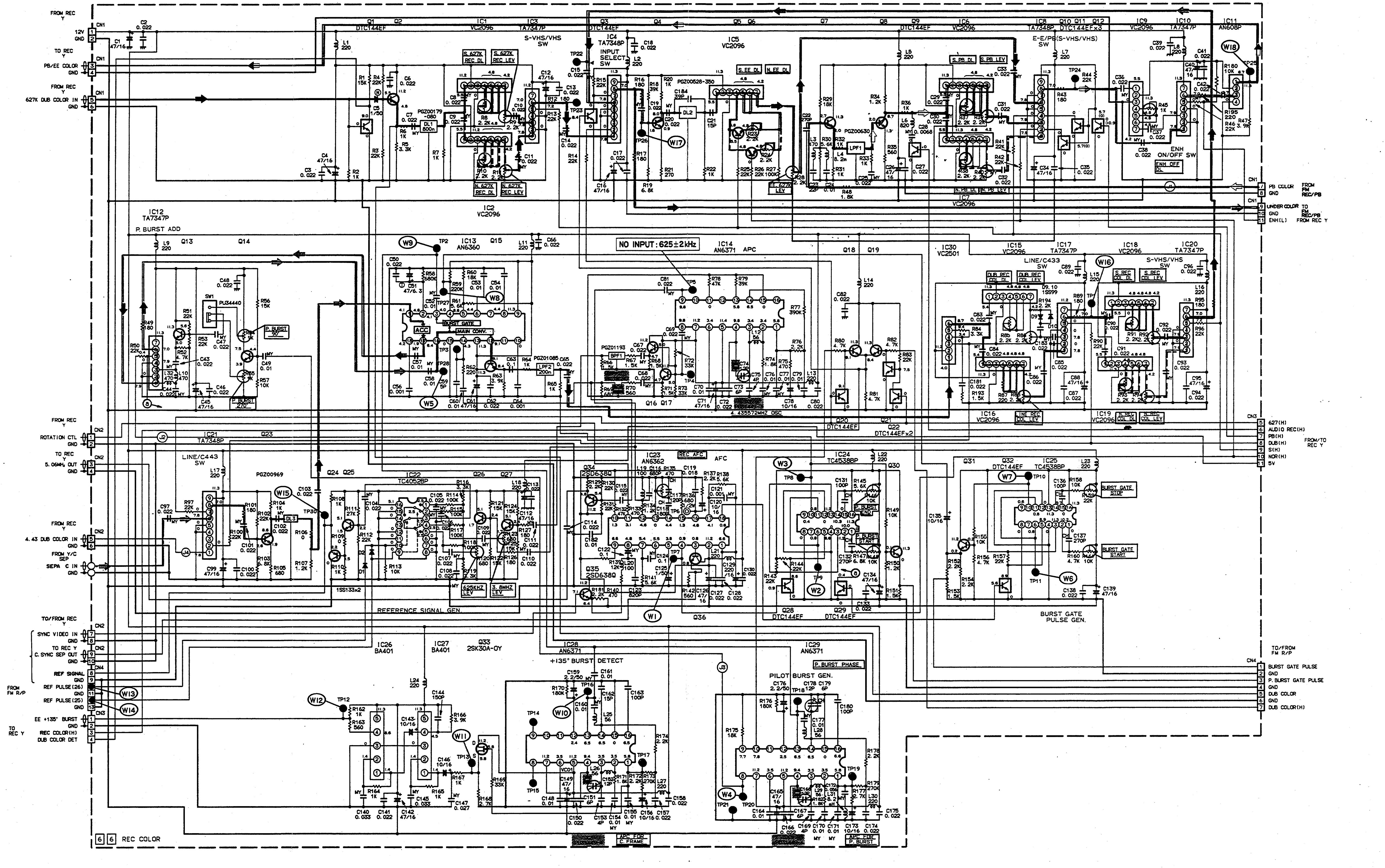
5

4

3

2

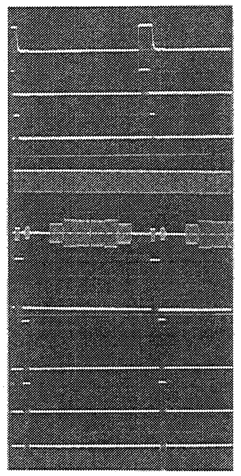
1


FROM REC Y
12V
GND
TO REC Y
PB/EE COLOR
FROM REC Y
627K DUB COLOR IN
Q1 DTC144EF
Q2
IC1 VC2096
IC3 TA7347P
S-VHS/VHS SW
Q3 DTC144EF
IC4 TA7348P
INPUT SELECT SW
Q4
IC5 VC2096
Q5 Q6
Q7
Q8
Q9 DTC144EF
IC6 VC2096
IC8 TA7348P
Q10 Q11 Q12 DTC144EFx3
E-E/PB (S-VHS/VHS) SW
IC9 VC2096
IC10 TA7347P
IC11 AN608P
ENH ON/OFF SW
IC2 VC2096
IC7 VC2096
PB COLOR FROM FM REC/PB
UNDER COLOR TO FM REC/PB
ENH(L) FROM REC Y
IC12 TA7347P
P. BURST ADD
Q13
Q14
IC13 AN6360
Q15
ACC
BURST GATE
MAIN CONV.
NO INPUT: 625±2kHz
IC14 AN6371 APC
4.435572MHZ OSC
Q16 Q17
Q18 Q19
Q20 DTC144EF
Q21 Q22 DTC144EFx2
IC30 VC2501
IC15 VC2096
IC17 TA7347P
LINE/C433 SW
IC18 VC2096
IC20 TA7347P
S-VHS/VHS SW
IC16 VC2096
IC19 VC2096
627(H)
AUDIO REC(H)
PB(H)
DUB(H)
S(H)
NOR(H)
5V
FROM/TO REC Y
FROM REC Y
ROTATION CTL
TO REC Y
5.06MHz OUT
IC21 TA7348P
LINE/C443 SW
Q23
FROM REC Y
4.43 DUB COLOR IN
FROM Y/C SEP
SEPA C IN
Q24 Q25
IC22 TC4052BP
Q26 Q27
625KHZ LEV
3.8MHZ LEV
1SS133x2
REFERENCE SIGNAL GEN.
IC23 AN6362
REC AFC
AFC
Q34 2SD638Q
Q35 2SD638Q
Q36
IC24 TC4538BP
Q30
Q28 DTC144EF
Q29 DTC144EF
BURST START
BURST END
Q31
Q32 DTC144EF
IC25 TC4538BP
BURST GATE STOP
BURST GATE START
BURST GATE PULSE GEN.
TO/FROM REC Y
SYNC VIDEO IN
TO REC Y
C. SYNC SEP OUT
REF SIGNAL
FROM FM R/P
REF PULSE(26)
REF PULSE(25)
TO REC Y
EE +135° BURST
REC COLOR(H)
DUB COLOR DET
IC26 BA401
IC27 BA401
Q33 2SK30A-OY
IC28 AN6371
+135° BURST DETECT
APC FOR C. FRAME
IC29 AN6371
P. BURST PHASE
PILOT BURST GEN.
APC FOR P. BURST
TO/FROM FM R/P
BURST GATE PULSE
P. BURST GATE PULSE
DUB COLOR
DUB COLOR(H)
6 REC COLOR

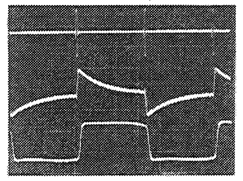
A B C 4-30 4-30 E F G H

4.27 REC COLOUR CIRCUIT BOARD

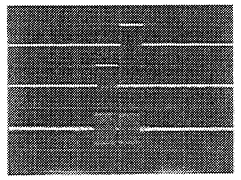
REC MODE


(H-rate)

W1	TP7: 6.0 Vp-p
W2	TP9: 11.1 Vp-p
W3	TP8: 10.7 Vp-p
W4	TP20: 2.2 Vp-p/ 4.43 MHz
W5	TP28: 660 mVp-p
W6	TP11: 11.7 Vp-p
W7	TP10: 11.5 Vp-p
W8	TP27: 2.7 Vp-p
W9	TP2: 1.2 Vp-p

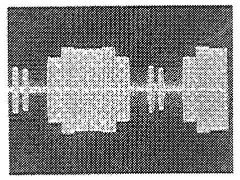

(H-rate)

W10	TP16: 1.2 Vp-p
W11	TP13: 110 mVp-p
W12	TP12: 1.4 Vp-p


(V-rate)

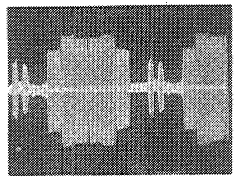
W13	CN4-10: 4.8 Vp-p
W14	CN4-12: 4.8 Vp-p
W15	TP30: 0.12 Vp-p

W16

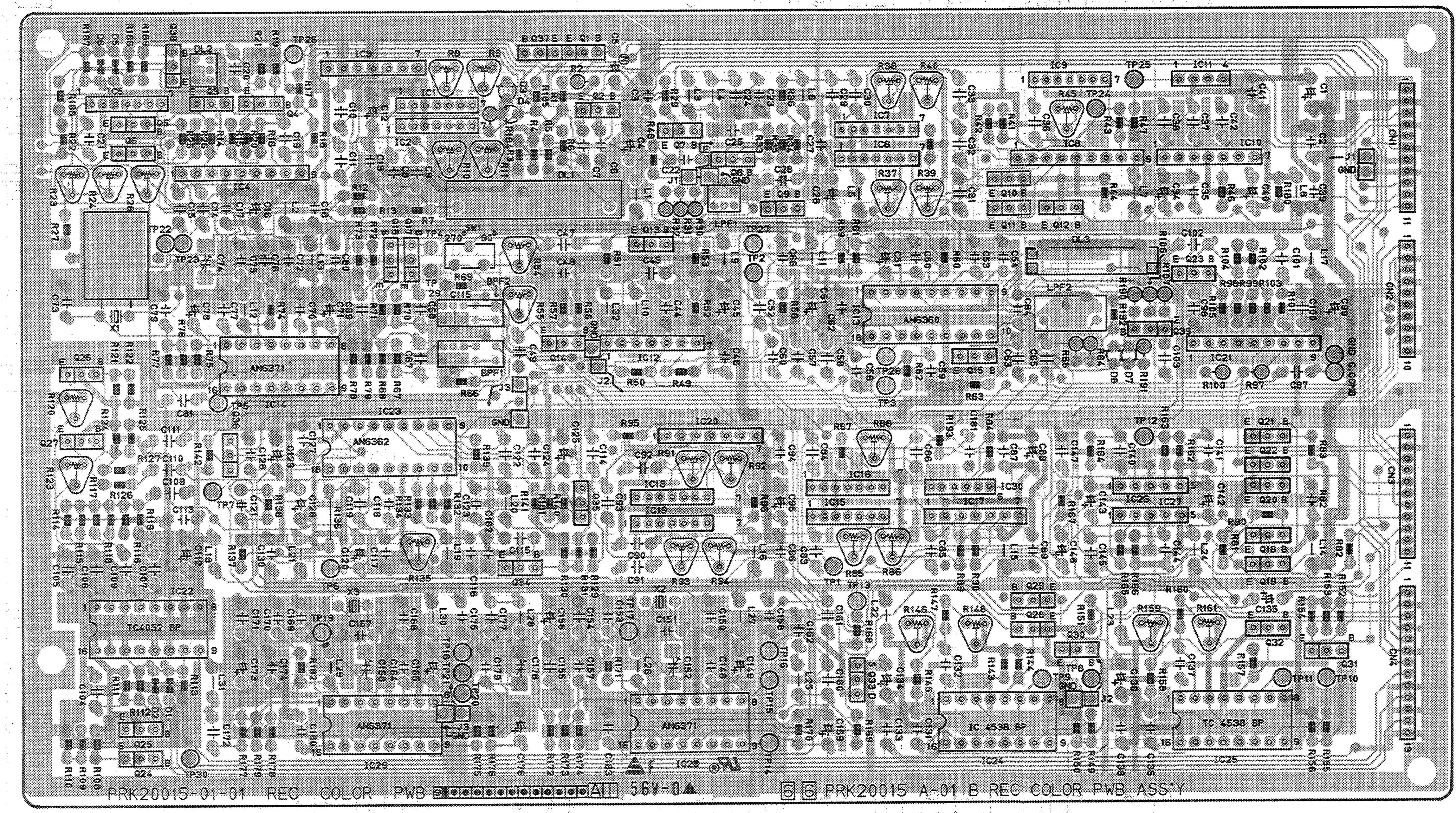

S-VHS

TP1: 0.4 Vp-p

W17

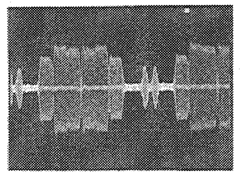

S-VHS

TP26: 0.26 Vp-p


IC1
IC2
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
AN6360
AN6371
AN6362
TC4052 BP
IC 4538 BP
TC 4538 BP
DL1
DL2
DL3
LPF1
LPF2
BPF1
BPF2
SW1
CN1
CN2
CN3
CN4
GND
PRK20015-01-01 REC COLOR PWB
56V-0
PRK20015 A-01 B REC COLOR PWB ASS'Y

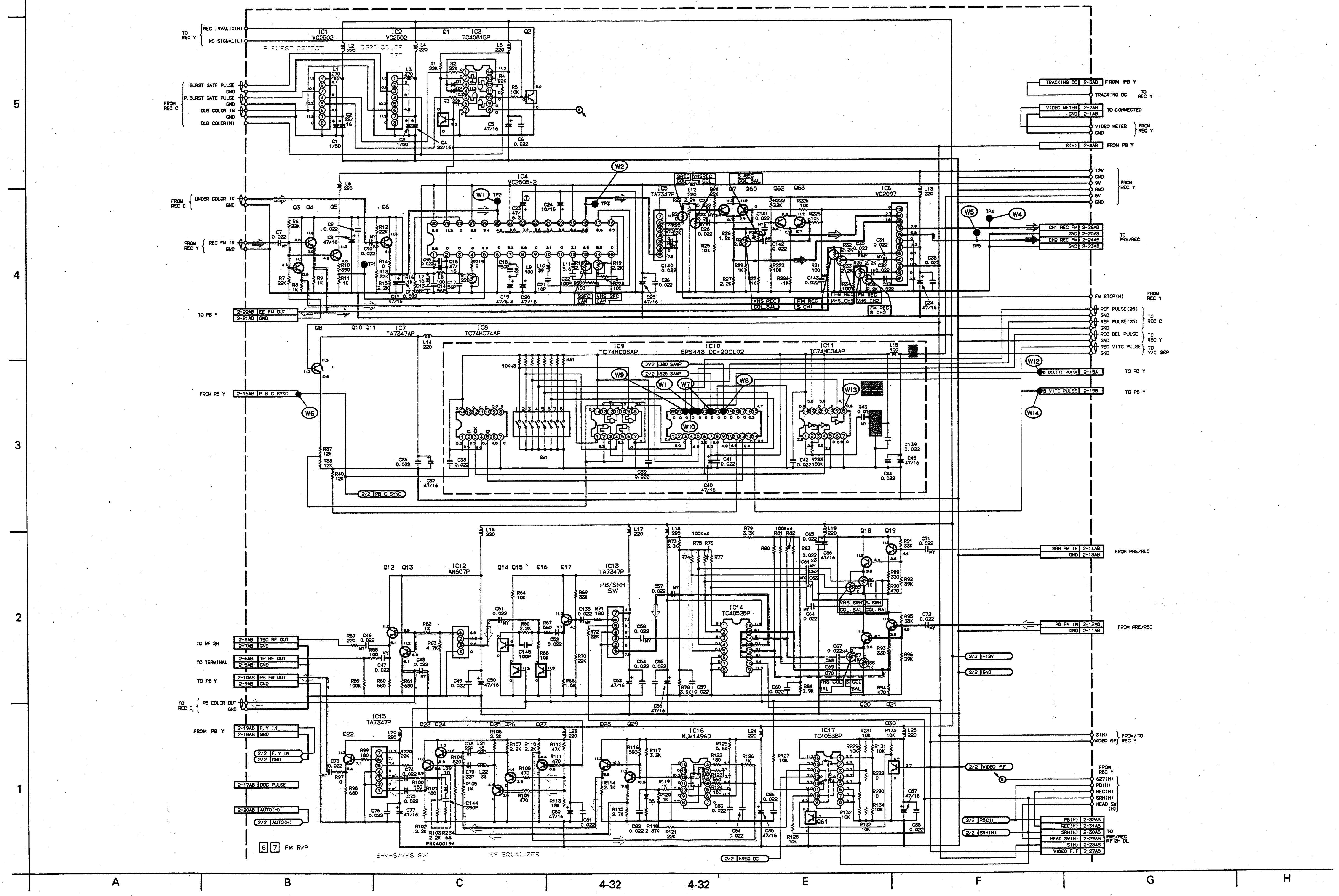
REC. PB MODE

W18


S-VHS

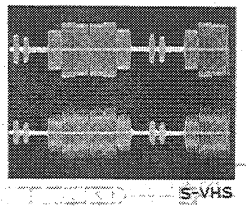
TP25
S-VHS
MHVE-2H: 0.4 Vp-p
REC/PB: 0.56 Vp-p
VHS
MHVE-2: 0.4 Vp-p
REC/PB: 0.4 Vp-p

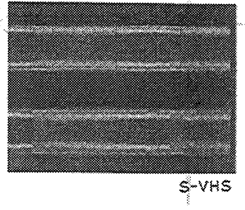
4.28 FM REC/PB SCHEMATIC DIAGRAM 1/2


6
5
4
3
2
1
A
B
C
D
E
F
G
H
IC1 VC2502
IC2 VC2502
Q1
IC3 TC4081BP
Q2
P. BURST DETECT
OSD COLOR DET
TO REC Y
REC INVALID(H)
NO SIGNAL(L)
FROM REC C
BURST GATE PULSE
GND
P. BURST GATE PULSE
GND
DUB COLOR IN
GND
DUB COLOR(H)
IC4 VC2505-2
IC5 TA7347P
IC6 VC2097
Q3 Q4 Q5 Q6
Q7 Q60 Q62 Q63
FROM REC C
UNDER COLOR IN
GND
FROM REC Y
REC FM IN
GND
TO PB Y
2-22AB EE FM OUT
2-21AB GND
W1 W2 W3 W4 W5 W6 W7 W8 W9 W10 W11 W12 W13 W14
TP1 TP2 TP3 TP4 TP5
S REC COL BAL
VHS REC COL BAL
FM REC S CH1
FM REC VHS CH1
FM REC VHS CH2
FM REC S CH2
TRACKING DC 2-3AB FROM PB Y
TRACKING DC TO REC Y
VIDEO METER 2-2AB
GND 2-1AB
TO CONNECTED
VIDEO METER
GND
FROM REC Y
S(H) 2-4AB FROM PB Y
12V
GND
9V
GND
5V
GND
FROM REC Y
CH1 REC FM 2-26AB
GND 2-25AB
CH2 REC FM 2-24AB
GND 2-23AB
TO PRE/REC
FM STOP(H)
FROM REC Y
REF PULSE(26)
GND
REF PULSE(25)
GND
TO REC C
REC DEL PULSE
GND
TO REC Y
REC VITC PULSE
GND
TO Y/C SEP
DELETE PULSE 2-15A TO PB Y
VITC PULSE 2-15B TO PB Y
Q8 Q10 Q11
IC7 TA7347AP
IC8 TC74HC74AP
IC9 TC74HC08AP
IC10 EPS448 DC-20CL02
IC11 TC74HC04AP
2/2 380 SAMP
2/2 625 SAMP
FROM PB Y
2-16AB P.B.C SYNC
2/2 PB.C SYNC
SW1
RA1
Q12 Q13
IC12 AN607P
Q14 Q15 Q16 Q17
IC13 TA7347P
PB/SRH SW
IC14 TC4052BP
Q18 Q19
SRH FM IN 2-14AB
GND 2-13AB
FROM PRE/REC
PB FM IN 2-12AB
GND 2-11AB
FROM PRE/REC
VHS SRH COL BAL
S SRH COL BAL
VHS COL BAL
S COL BAL
2/2 +12V
2/2 GND
Q20 Q21
TO RF 2H
2-8AB TBC RF OUT
2-7AB GND
TO TERMINAL
2-6AB TP RF OUT
2-5AB GND
TO PB Y
2-10AB PB FM OUT
2-9AB GND
TO REC C
PB COLOR OUT
GND
FROM PB Y
2-19AB F.Y IN
2-18AB GND
2/2 F.Y IN
2/2 GND
2-17AB DOC PULSE
2-20AB AUTO(H)
2/2 AUTO(H)
IC15 TA7347P
Q22 Q23 Q24 Q25 Q26 Q27 Q28 Q29 Q30 Q61
IC16 NJM1496D
IC17 TC4053BP
S(H)
VIDEO F.F
FROM/TO REC Y
2/2 VIDEO F.F
FROM REC Y
627(H)
PB(H)
REC(H)
SRH(H)
HEAD SW(H)
2/2 PB(H)
2/2 SRH(H)
PB(H) 2-32AB
REC(H) 2-31AB
SRH(H) 2-30AB
HEAD SW(H) 2-29AB
S(H) 2-28AB
VIDEO F.F 2-27AB
TO PRE/REC RF 2H DL
2/2 FREQ. DC
6 7 FM R/P
S-VHS/VHS SW
RF EQUALIZER
PRK40019A

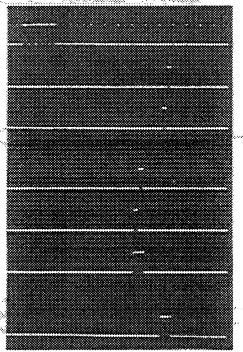
4.29 FM REC/PB CIRCUIT BOARD

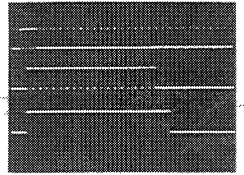
REC MODE

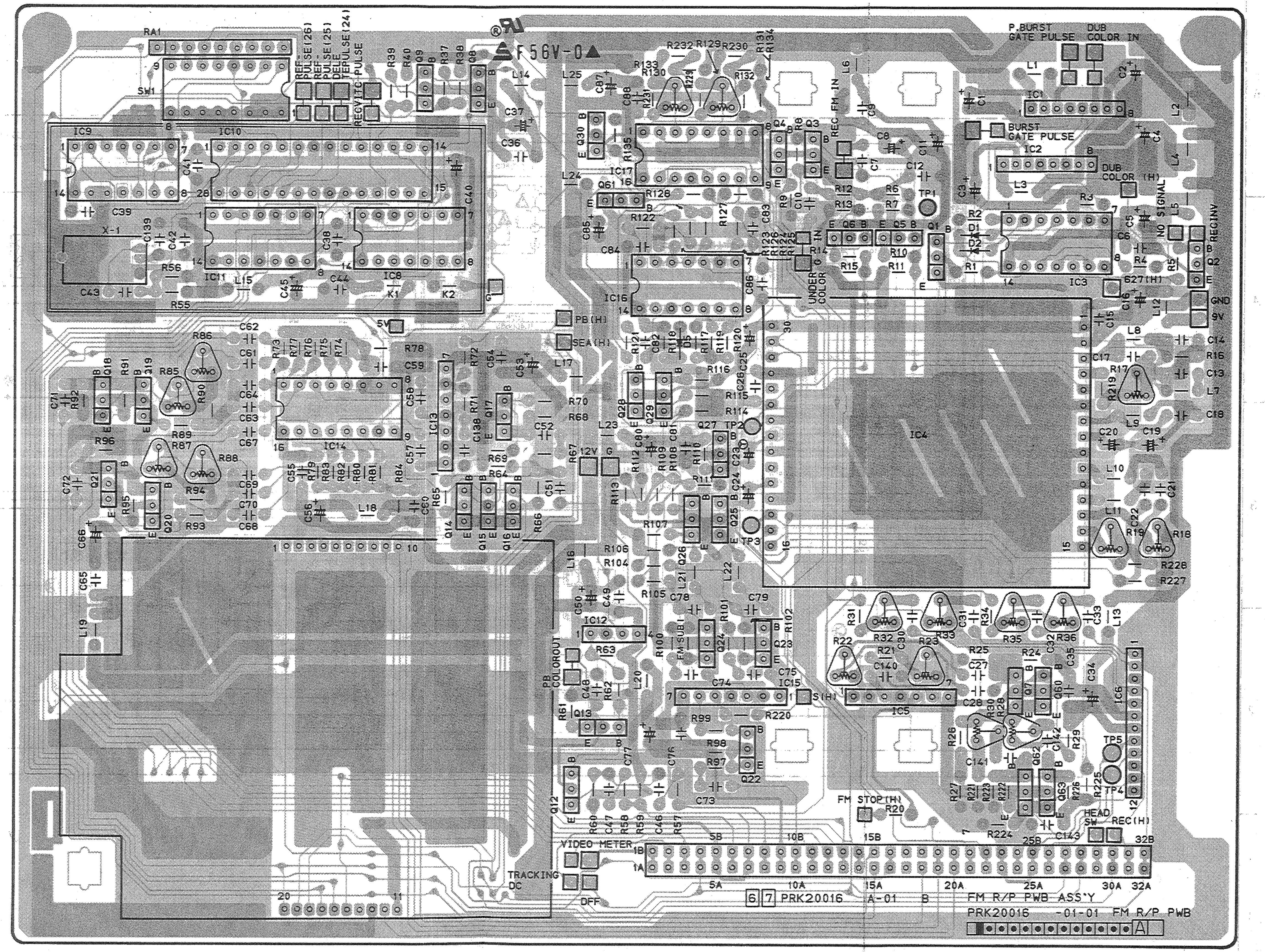




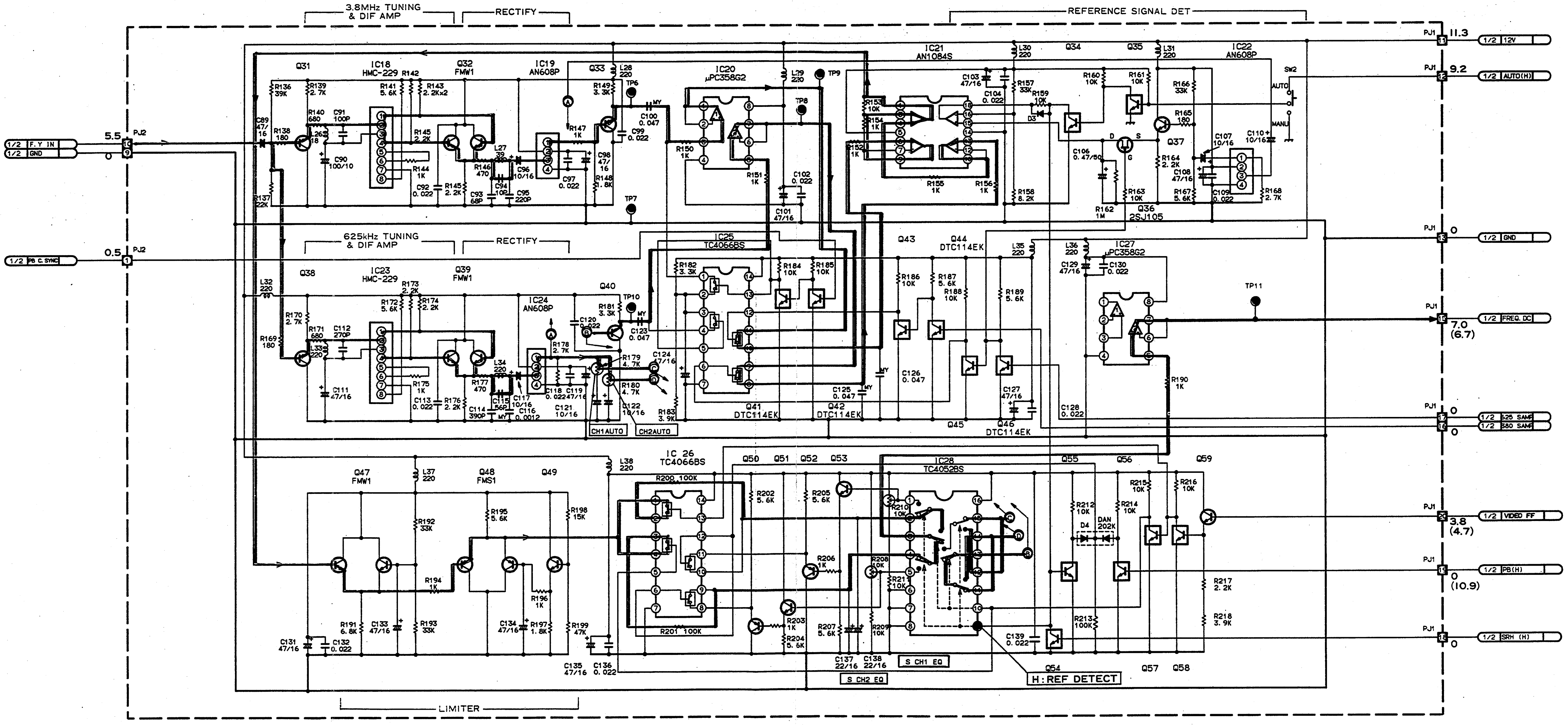
REC. PB MODE






F56V-0
P.BURST GATE PULSE
DUB COLOR IN
BURST GATE PULSE
DUB COLOR (H)
NO SIGNAL
REGINV
627(H)
GND
9V
REC FM IN
UNDER COLOR
REF-PULSE(26)
REF-PULSE(25)
DELE TEPULSE(24)
RECVITC PULSE
PB(H)
SEA(H)
5V
12V
G
IC1
IC2
IC3
IC4
IC5
IC6
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC16
IC17
TP1
TP2
TP3
TP4
TP5
SW1
RA1
X-1
K1
K2
PB COLOROUT
FM SUB
S(H)
FM STOP(H)
HEAD SW
REC(H)
VIDEO METER
TRACKING DC
DFF
1A
1B
5A
5B
10A
10B
15A
15B
20A
25A
25B
30A
32A
32B
6 7 PRK20016 A-01 B
FM R/P PWB ASS'Y
PRK20016 -01-01 FM R/P PWB
A
6
5
4
3
2
1
A
B
C
E
F
G
H

4.30 FM REC/PB SCHEMATIC DIAGRAM 2/2


3.8MHz TUNING & DIF AMP
RECTIFY
REFERENCE SIGNAL DET
625kHz TUNING & DIF AMP
RECTIFY
LIMITER
IC18 HMC-229
IC19 AN608P
IC20 μPC358G2
IC21 AN1084S
IC22 AN608P
IC23 HMC-229
IC24 AN608P
IC25 TC4066BS
IC 26 TC4066BS
IC27 μPC358G2
IC28 TC4052BS
Q31
Q32 FMW1
Q33
Q34
Q35
Q36 2SJ105
Q37
Q38
Q39 FMW1
Q40
Q41 DTC114EK
Q42 DTC114EK
Q43
Q44 DTC114EK
Q45
Q46 DTC114EK
Q47 FMW1
Q48 FMS1
Q49
Q50
Q51
Q52
Q53
Q54
Q55
Q56
Q57
Q58
Q59
D3
D4 DAN 202K
SW2 AUTO MANU
TP6
TP7
TP8
TP9
TP10
TP11
CH1 AUTO
CH2 AUTO
S CH1 EQ
S CH2 EQ
H:REF DETECT
PJ2
PJ1
1/2 F.Y IN
1/2 GND
1/2 PB C.SYNC
5.5
0
0.5
1/2 12V
11.3
1/2 AUTO(H)
9.2
1/2 GND
0
1/2 FREQ. DC
7.0 (6.7)
1/2 625 SAMP
1/2 580 SAMP
0
0
1/2 VIDEO FF
3.8 (4.7)
1/2 PB(H)
0 (10.9)
1/2 SRH (H)
0
R136 39K
R139 2.7K
R138 180
R137 22K
C89 47/16
R140 680
C91 100P
L26 18
C90 100/10
R141 5.6K
R142
R143 2.2K×2
R145 2.2K
R144 1K
C92 0.022
R145 2.2K
C93 68P
R146 470
L27 39
C94 10P
C95 220P
C96 10/16
C97 0.022
C98 47/16
R148 1.8K
R147 1K
R149 3.3K
L28 220
C100 0.047
C99 0.022
MY
R150 1K
R151 1K
L29 220
C102 0.022
C101 47/16
R153 10K
R154 1K
R152 1K
R155 1K
R156 1K
C103 47/16
C104 0.022
L30 220
R157 33K
R159 10K
R158 8.2K
R160 10K
R161 10K
C106 0.47/50
R162 1M
R163 10K
L31 220
R166 33K
R165 180
R164 2.2K
C108 47/16
R167 5.6K
C107 10/16
C110 10/16
C109 0.022
R168 2.7K
L32 220
R170 2.7K
R169 180
R171 680
C112 270P
L33 220
C111 47/16
R172 5.6K
R173 2.2K
R174 2.2K
R175 1K
C113 0.022
R176 2.2K
C114 390P
R177 470
L34 220
C115 56P
C116 0.0012
C117 10/16
C118 0.022
C119 47/16
C121 10/16
R178 2.7K
C120 0.022
R181 3.3K
C123 0.047
R179 4.7K
R180 4.7K
C124 47/16
C122 10/16
R183 3.9K
R182 3.3K
R184 10K
R185 10K
C125 0.047
L35 220
R186 10K
R187 5.6K
R188 10K
R189 5.6K
C126 0.047
C127 47/16
L36 220
C129 47/16
C130 0.022
C128 0.022
R190 1K
L37 220
L38 220
R192 33K
R195 5.6K
R198 15K
R194 1K
R196 1K
R191 6.8K
C133 47/16
R193 33K
C134 47/16
R197 1.8K
R199 47K
C131 47/16
C132 0.022
C135 47/16
C136 0.022
R200 100K
R201 100K
R202 5.6K
R205 5.6K
R206 1K
R203 1K
R204 5.6K
R207 5.6K
C137 22/16
C138 22/16
R208 10K
R209 10K
R210 10K
R211 10K
C139 0.022
R212 10K
R214 10K
R213 100K
R215 10K
R216 10K
R217 2.2K
R218 3.9K
6
5
4
3
2
1
A
B
C
D
E
F
G
H

6

4.31 FREQUENCY AUTO CIRCUIT BOARD

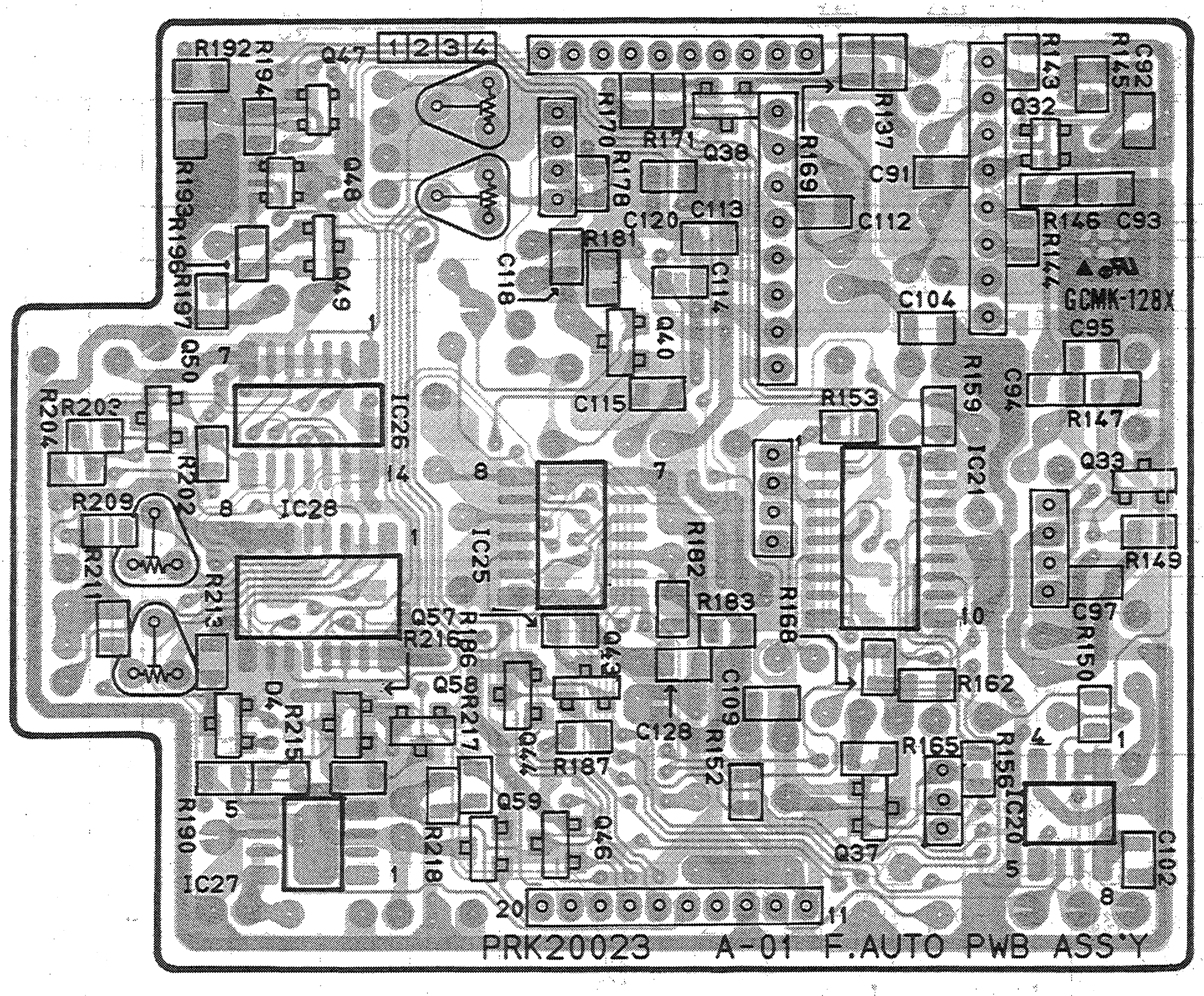
5

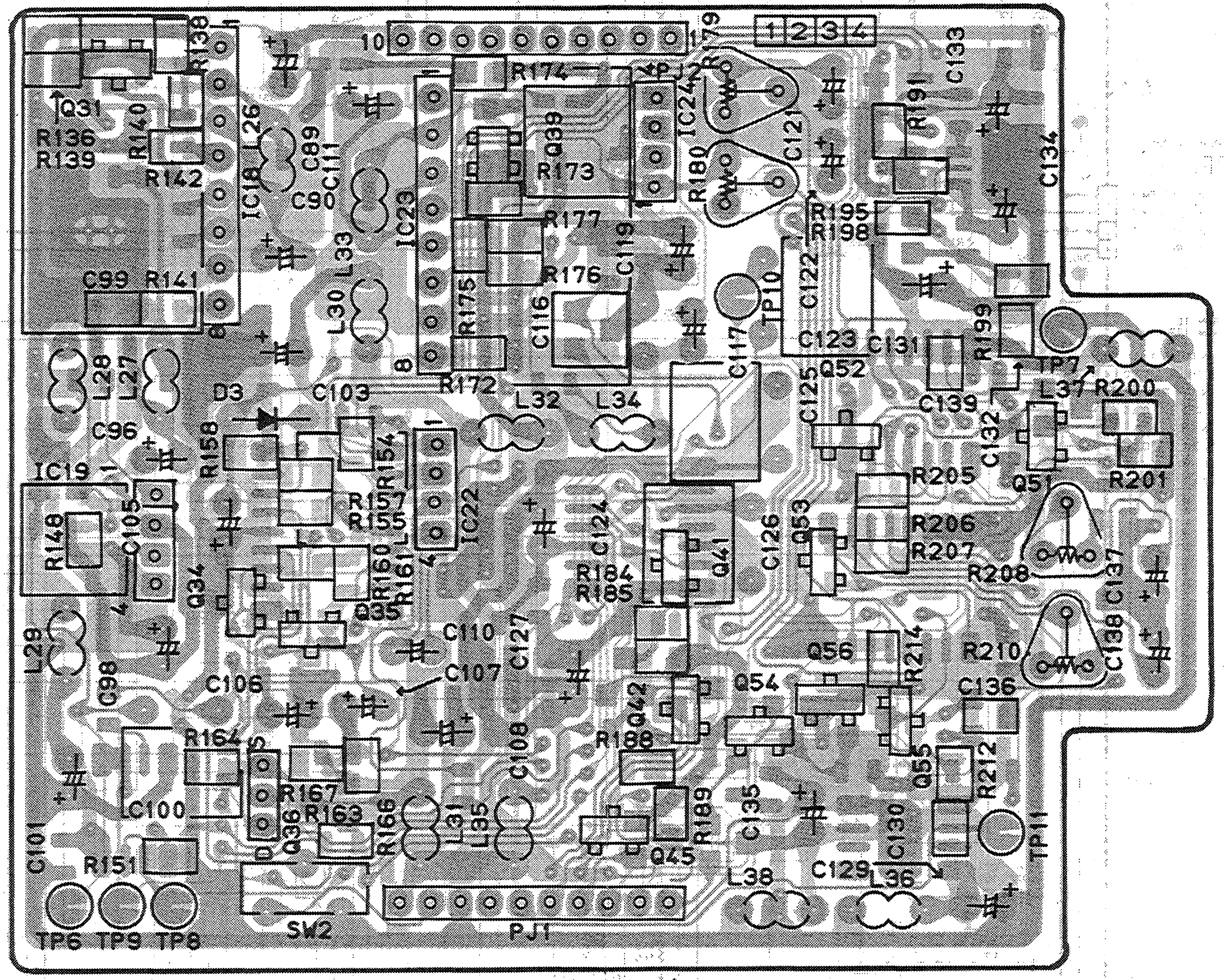
4

3

2

1


R192
Q47
1 2 3 4
R194
R193
Q48
R196
R197
Q49
Q50
R204
R203
R202
R209
R211
R213
D4
R215
R190
IC27
IC26
IC28
IC25
R170
R171
R178
Q38
R181
C120
C113
C118
C114
Q40
C115
R137
R169
C91
C112
R143
R145
C92
Q32
R146
R144
C93
GCMK-128X
C104
C95
C94
R159
R153
IC21
R147
Q33
R149
C97
R150
R182
R183
R168
Q57
R216
R186
Q58
R217
Q43
Q44
R187
C128
C109
R152
Q59
Q46
R218
R162
R165
R156
IC20
Q37
C102
PRK20023 A-01 F.AUTO PWB ASS'Y


R138
Q31
R136
R139
R140
R142
L26
IC18
C89
C111
C90
IC23
L33
L30
C99
R141
R174
PJ2
R179
1 2 3 4
C133
Q39
R173
IC24
R180
C121
R191
C134
R177
R176
R175
C116
C119
C117
TP10
C122
R195
R198
R172
L32
L34
C123
C131
C125
Q52
R199
TP7
L37
R200
L28
L27
D3
C103
C96
IC19
R158
R154
R157
R155
IC22
C124
C139
C132
Q51
R201
R148
C105
Q34
R160
R161
Q35
R184
R185
Q41
C126
Q53
R205
R206
R207
R208
C137
L29
C98
C106
C110
C127
C107
Q42
R188
Q54
Q56
R214
R210
C138
C136
R164
C100
R167
R163
R166
L31
L35
C108
R189
C135
C130
Q55
R212
C101
R151
Q36
Q45
L38
C129
L36
TP11
TP6
TP9
TP8
SW2
PJ1

A

B

C

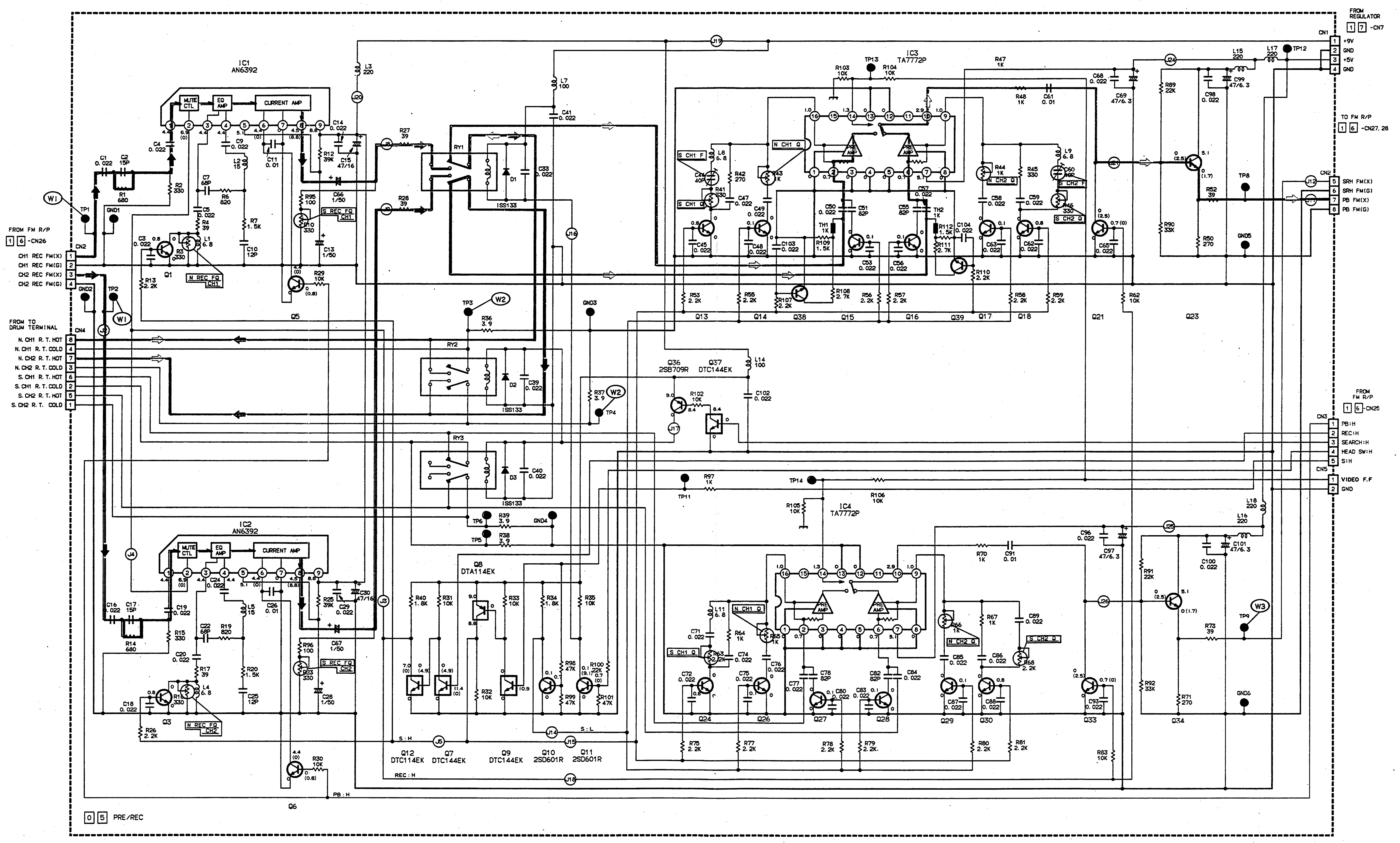
E

F

G

H

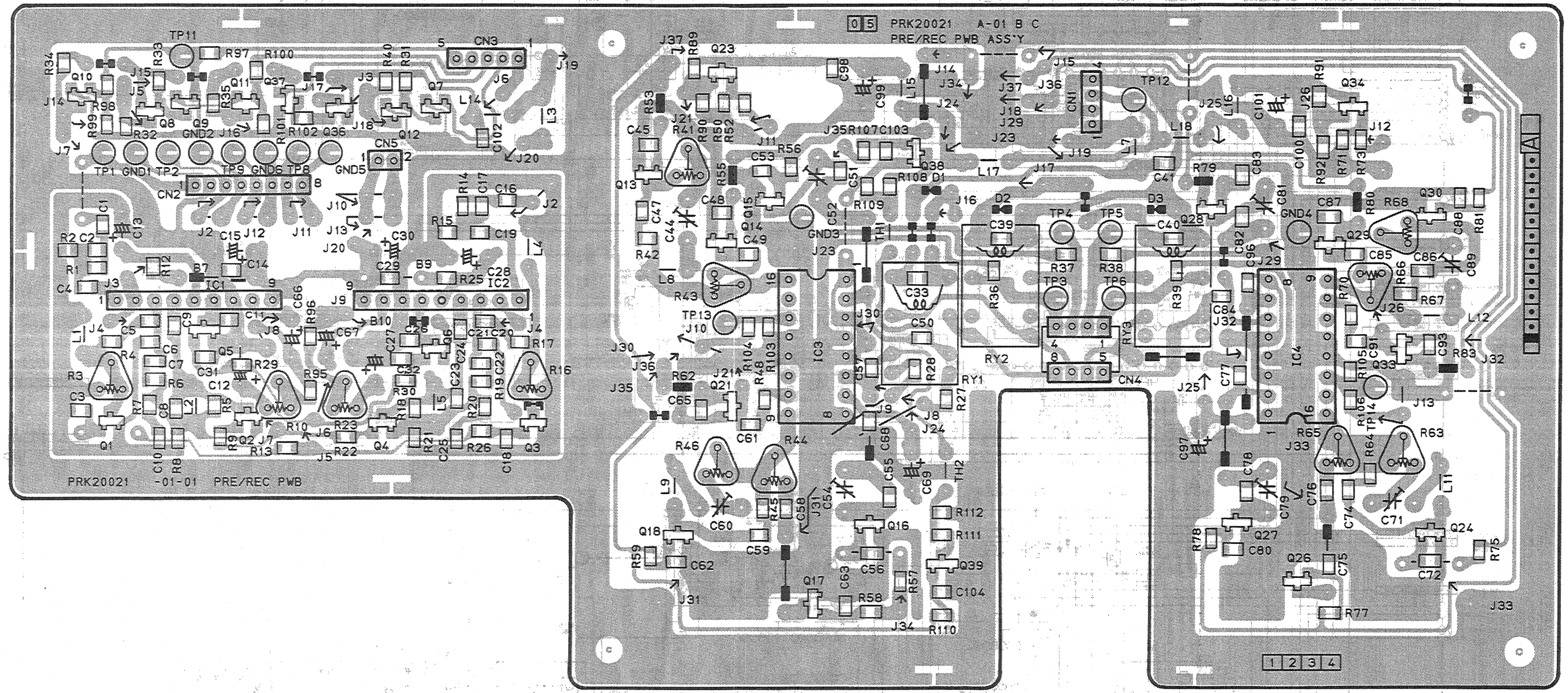
4.32 VIDEO PRE/RECAMP SCHEMATIC DIAGRAM

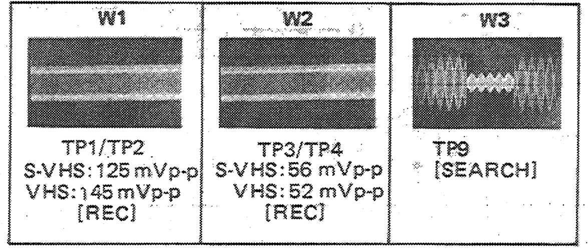

IC1
AN6392
MUTE CTL
EQ AMP
CURRENT AMP
IC2
AN6392
IC3
TA7772P
IC4
TA7772P
PRE AMP
RY1
RY2
RY3
1SS133
D1
D2
D3
FROM FM R/P
1 6 -CN26
CN2
CH1 REC FM(X)
CH1 REC FM(G)
CH2 REC FM(X)
CH2 REC FM(G)
FROM TO DRUM TERMINAL
CN4
N.CH1 R.T.HOT
N.CH1 R.T.COLD
N.CH2 R.T.HOT
N.CH2 R.T.COLD
S.CH1 R.T.HOT
S.CH1 R.T.COLD
S.CH2 R.T.HOT
S.CH2 R.T. COLD
FROM REGULATOR
1 7 -CN7
CN1
+9V
GND
+5V
GND
TO FM R/P
1 6 -CN27, 28
CN2
SRH FM(X)
SRH FM(G)
PB FM(X)
PB FM(G)
FROM FM R/P
1 6 -CN25
CN3
PB:H
REC:H
SEARCH:H
HEAD SW:H
S:H
CN5
VIDEO F.F
GND
Q36
2SB709R
Q37
DTC144EK
Q8
DTA114EK
Q12
DTC114EK
Q7
DTC144EK
Q9
DTC144EK
Q10
2SD601R
Q11
2SD601R
N REC FQ CH1
N REC FQ CH2
S REC FQ CH1
S REC FQ CH2
N CH1 Q
N CH2 Q
S CH1 Q
S CH2 Q
S CH1 F
S CH2 F
TP1
TP2
TP3
TP4
TP5
TP6
TP8
TP9
TP11
TP12
TP13
TP14
GND1
GND2
GND3
GND4
GND5
GND6
W1
W2
W3
S:H
S:L
REC:H
PB:H
0 5 PRE/REC

NOTE:UNLESS OTHERWISE SPECIFIED
ALL NPN TRANSISTORS ARE 2SC2778C
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN µH.
ALL CAPASITANCE VALUES ARE IN µF.

ELECTROLYTIC
MYLAR
CERAMIC

4.33 VIDEO PRE/RECAMP CIRCUIT BOARD


05 PRK20021 A-01 B C
PRE/REC PWB ASS'Y
PRK20021 -01-01 PRE/REC PWB
CN1
CN2
CN3
CN4
CN5
IC1
IC2
IC3
IC4
RY1
RY2
RY3
TP1
TP2
TP3
TP4
TP5
TP6
TP8
TP9
TP11
TP12
TP13
TP14
GND1
GND2
GND3
GND4
GND5
GND6
1 2 3 4



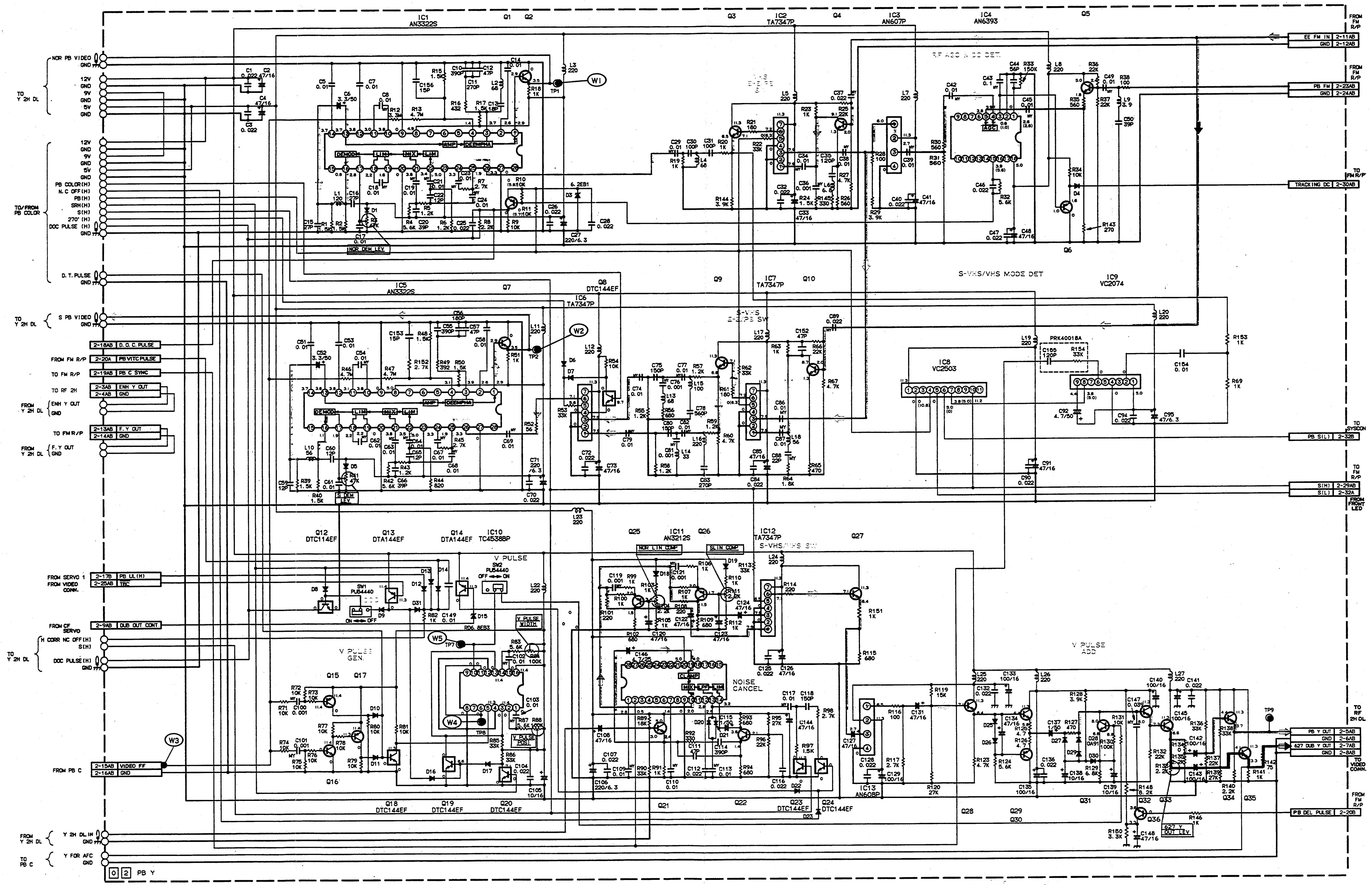
TP1/TP2
S-VHS: 125 mVp-p
VHS: 145 mVp-p
[REC]

TP3/TP4
S-VHS: 56 mVp-p
VHS: 52 mVp-p
[REC]

TP9
[SEARCH]

Note: Every FM level is measured at its pedestal portion.

4.34 PB Y SCHEMATIC DIAGRAM

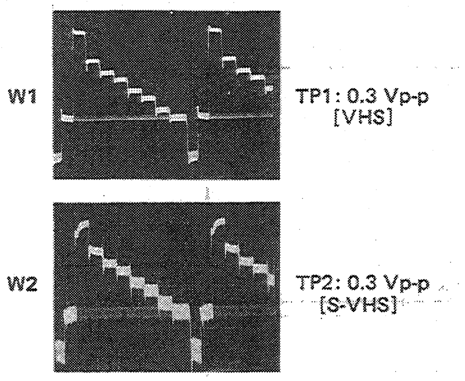


IC1 AN3322S
Q1 Q2
Q3
IC2 TA7347P
Q4
IC3 AN607P
IC4 AN6393
Q5
FROM FM R/P
EE FM IN 2-11AB
GND 2-12AB
PB FM 2-23AB
GND 2-24AB
TO FM R/P
TRACKING DC 2-30AB
RF AGC & DO DET
W1
TP1
NOR PB VIDEO
GND
12V
GND
9V
GND
5V
GND
TO Y 2H DL
TO/FROM PB COLOR
PB COLOR(H)
N.C OFF(H)
PB(H)
SRH(H)
S(H)
270° (H)
DOC PULSE (H)
D.T. PULSE
NOR DEM LEV
DEMOD
LIM
MIX
AMP
DEEMPHA
Q6
S-VHS/VHS MODE DET
IC5 AN3322S
Q7
Q8 DTC144EF
IC6 TA7347P
Q9
IC7 TA7347P
Q10
IC9 VC2074
IC8 VC2503
PRK40018A
S PB VIDEO
2-18AB D.O.C. PULSE
FROM FM R/P 2-20A PB VITC PULSE
TO FM R/P 2-19AB PB C SYNC
TO RF 2H 2-3AB ENH Y OUT
2-4AB GND
FROM Y 2H DL ENH Y OUT
GND
TO FM R/P 2-13AB F.Y OUT
2-14AB GND
FROM Y 2H DL F.Y OUT
GND
W2
TP2
S DEM LEV
S-VHS E-E/PB SW
TO SYSCON
PB S(L) 2-32B
TO FM R/P
S(H) 2-29AB
S(L) 2-32A
FROM FRONT LED
Q12 DTC114EF
Q13 DTA144EF
Q14 DTA144EF
IC10 TC4538BP
V PULSE
SW1 PU54440
SW2 PU54440
OFF ON
Q25
IC11 AN3212S
Q26
IC12 TA7347P
S-VHS/VHS SW
Q27
NOR LIN COMP
SLIN COMP
FROM SERVO 1 2-17B PB UL(H)
FROM VIDEO CONN. 2-25AB TBC
FROM CF SERVO 2-9AB DUB OUT CONT
TO Y 2H DL
H CORR NC OFF(H)
S(H)
DOC PULSE(H)
GND
V PULSE GEN.
V PULSE WIDTH
V PULSE POSI.
W5
TP7
W4
TP8
W3
Q15 Q17
Q16
FROM PB C 2-15AB VIDEO FF
2-16AB GND
CLAMP
NOISE CANCEL
IC13 AN608P
V PULSE ADD
Q18 DTC144EF
Q19 DTC144EF
Q20 DTC144EF
Q21
Q22
Q23 DTC144EF
Q24 DTC144EF
Q28
Q29
Q30
Q31
Q32 Q33
Q34 Q35
Q36
627 Y OUT LEV
TP9
TO RF 2H DL
PB Y OUT 2-5AB
GND 2-6AB
627 DUB Y OUT 2-7AB
GND 2-8AB
TO VIDEO CONN.
FROM FM R/P
PB DEL PULSE 2-20B
FROM Y 2H DL Y 2H DL IN
GND
TO PB C Y FOR AFC
GND
0 2 PB Y

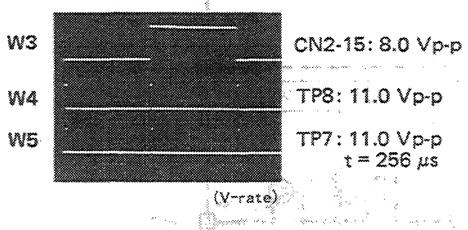
6
5
4
3
2
1
A
B
C
D
E
F
G
H

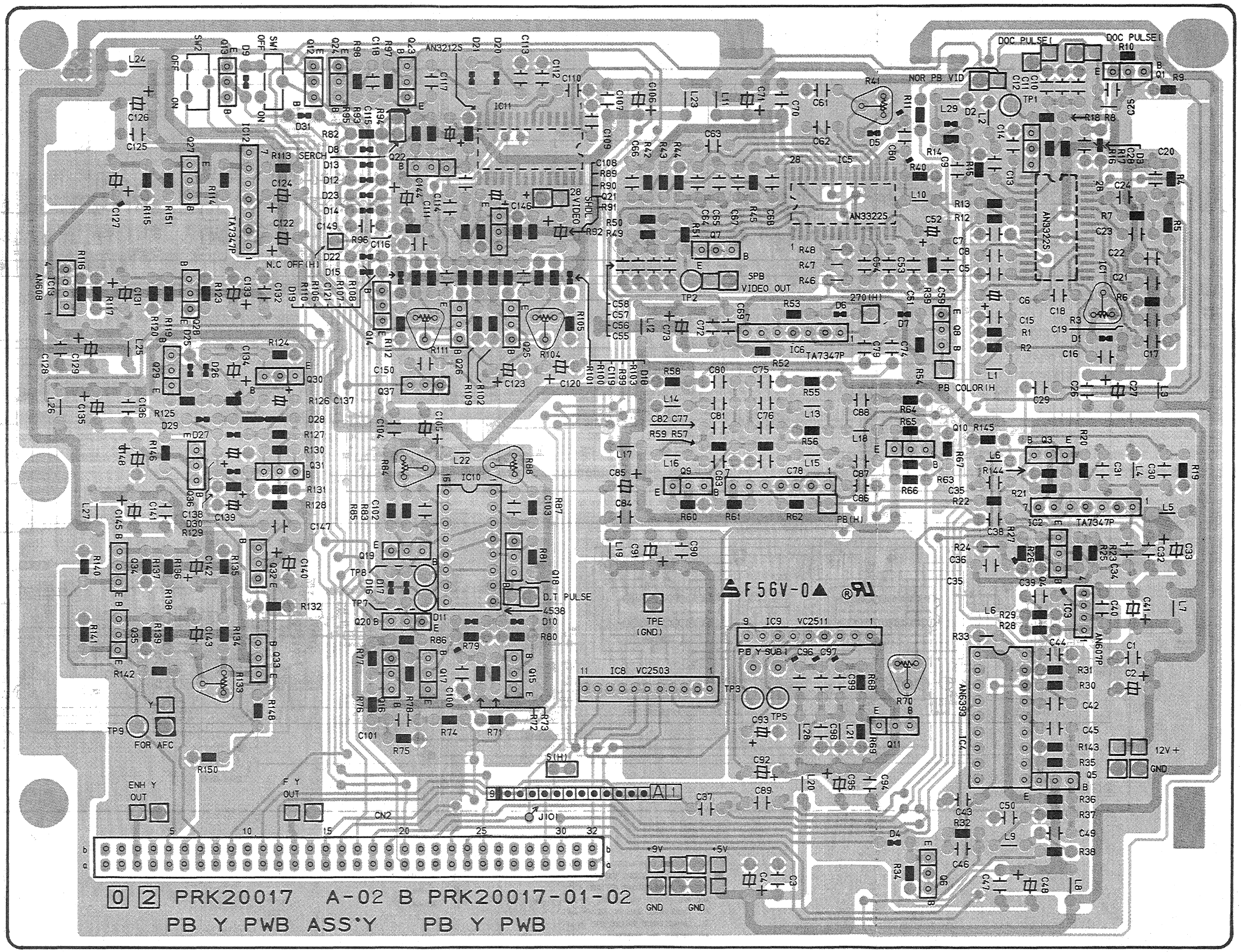
4.35 PB Y CIRCUIT BOARD

REC. PB MODE

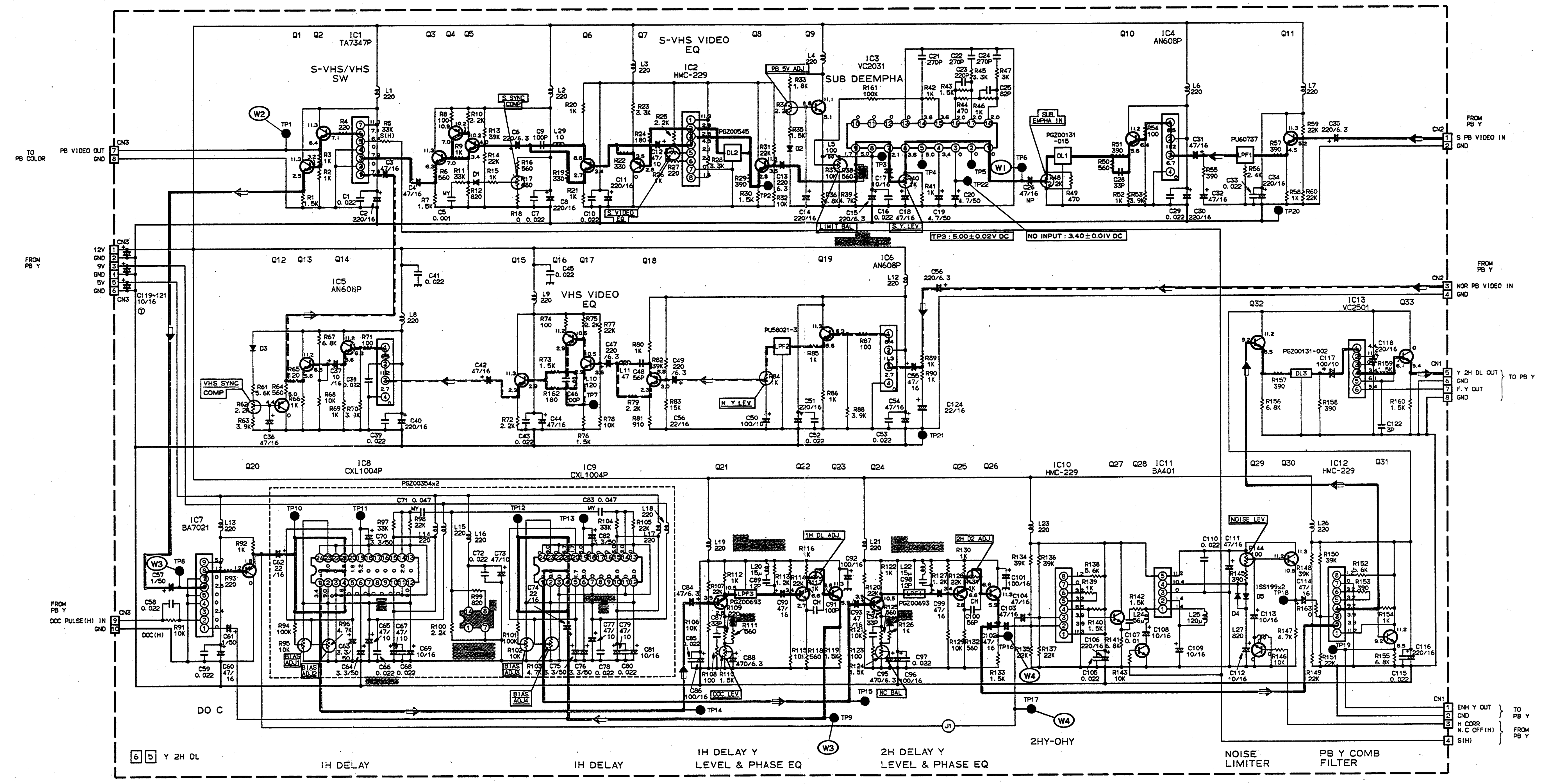


STILL




AN3212S
IC11
AN33225
IC5
IC1
TA7347P
IC12
IC13
AN608
IC6
TA7347P
IC10
IC2
TA7347P
IC3
AN607P
IC9
VC2511
IC8
VC2503
IC4
AN6393
DOC PULSE
NOR PB VID
SPB VIDEO OUT
PB COLOR(H)
D.T PULSE
TPE (GND)
PB Y SUB
FOR AFC
ENH Y OUT
F Y OUT
CN2
J101
+9V
+5V
GND
12V+
F56V-0
0 2 PRK20017 A-02 B PRK20017-01-02
PB Y PWB ASS'Y PB Y PWB

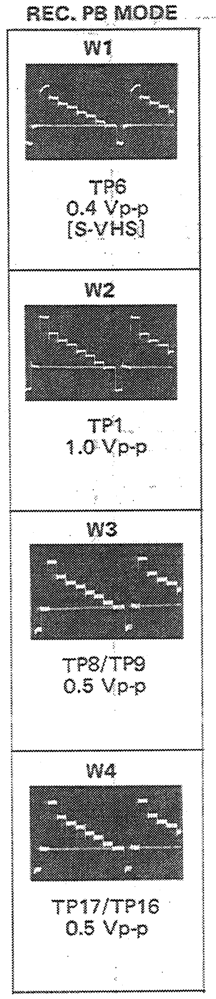
4.36 Y 2H DELAY SCHEMATIC DIAGRAM

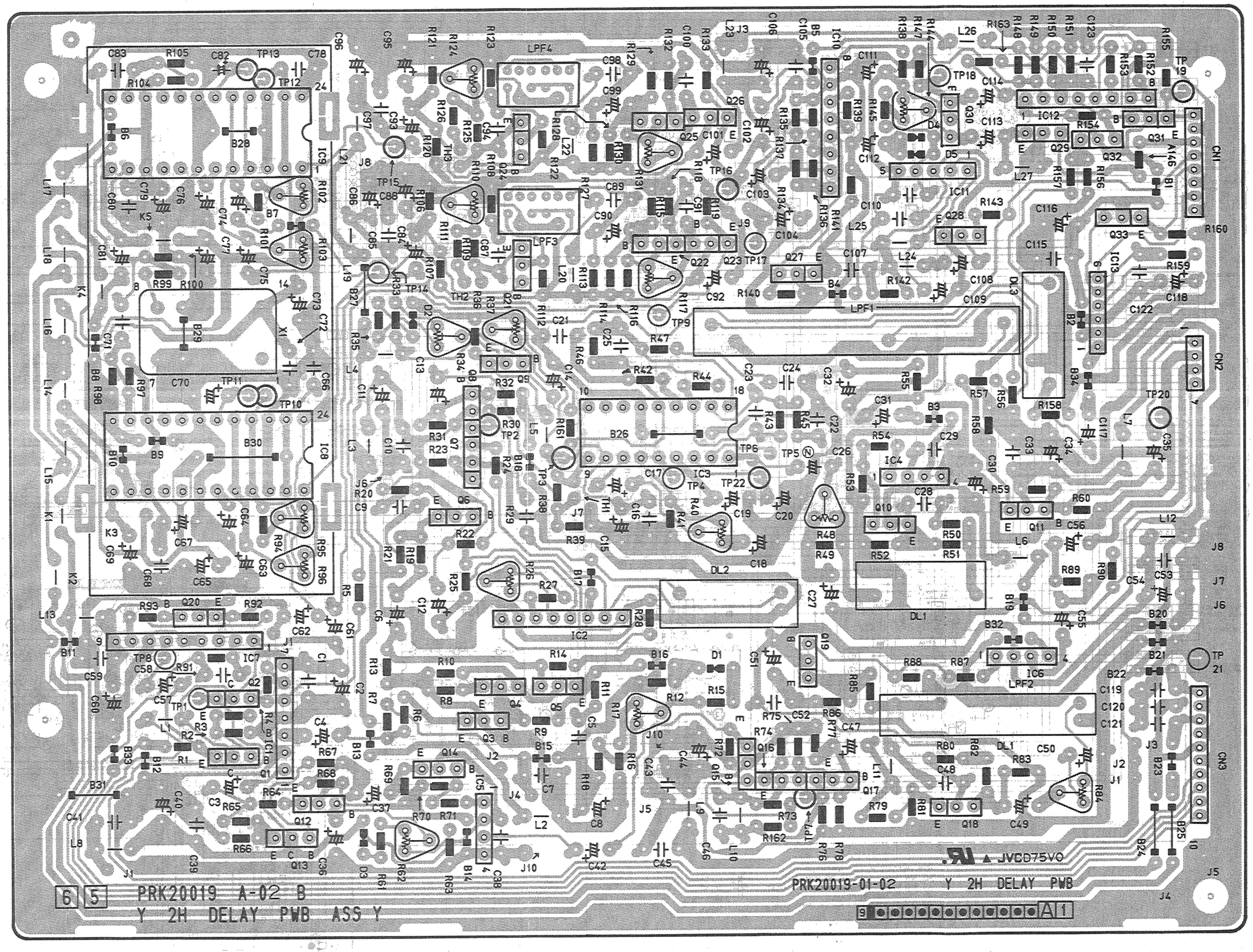

S-VHS/VHS SW
IC1 TA7347P
S-VHS VIDEO EQ
IC2 HMC-229
IC3 VC2031
SUB DEEMPHA
IC4 AN608P
IC5 AN608P
VHS VIDEO EQ
IC6 AN608P
IC13 VC2501
IC7 BA7021
IC8 CXL1004P
IC9 CXL1004P
IC10 HMC-229
IC11 BA401
IC12 HMC-229
PB VIDEO OUT
TO PB COLOR
FROM PB Y
S PB VIDEO IN
NOR PB VIDEO IN
Y 2H DL OUT
F.Y OUT
TO PB Y
DOC PULSE(H) IN
ENH Y OUT
H CORR
N.C OFF(H)
S(H)
TP3 : 5.00±0.02V DC
NO INPUT : 3.40±0.01V DC
DO C
6 5 Y 2H DL
1H DELAY
1H DELAY
1H DELAY Y LEVEL & PHASE EQ
2H DELAY Y LEVEL & PHASE EQ
2HY-OHY
NOISE LIMITER
PB Y COMB FILTER

NOTE:UNLESS OTHERWISE SPECIFIED
ALL NPN TRANSISTORS ARE 2SC2647C.
ALL PNP TRANSISTORS ARE 2SB641Q.
ALL RESISTANCE VALUES ARE IN OHMS. (1/6W)
ALL INDUCTANCE VALUES ARE IN μH.
ALL CAPACITANCE VALUES ARE IN μF.
ALL DIODES ARE 1SS133.

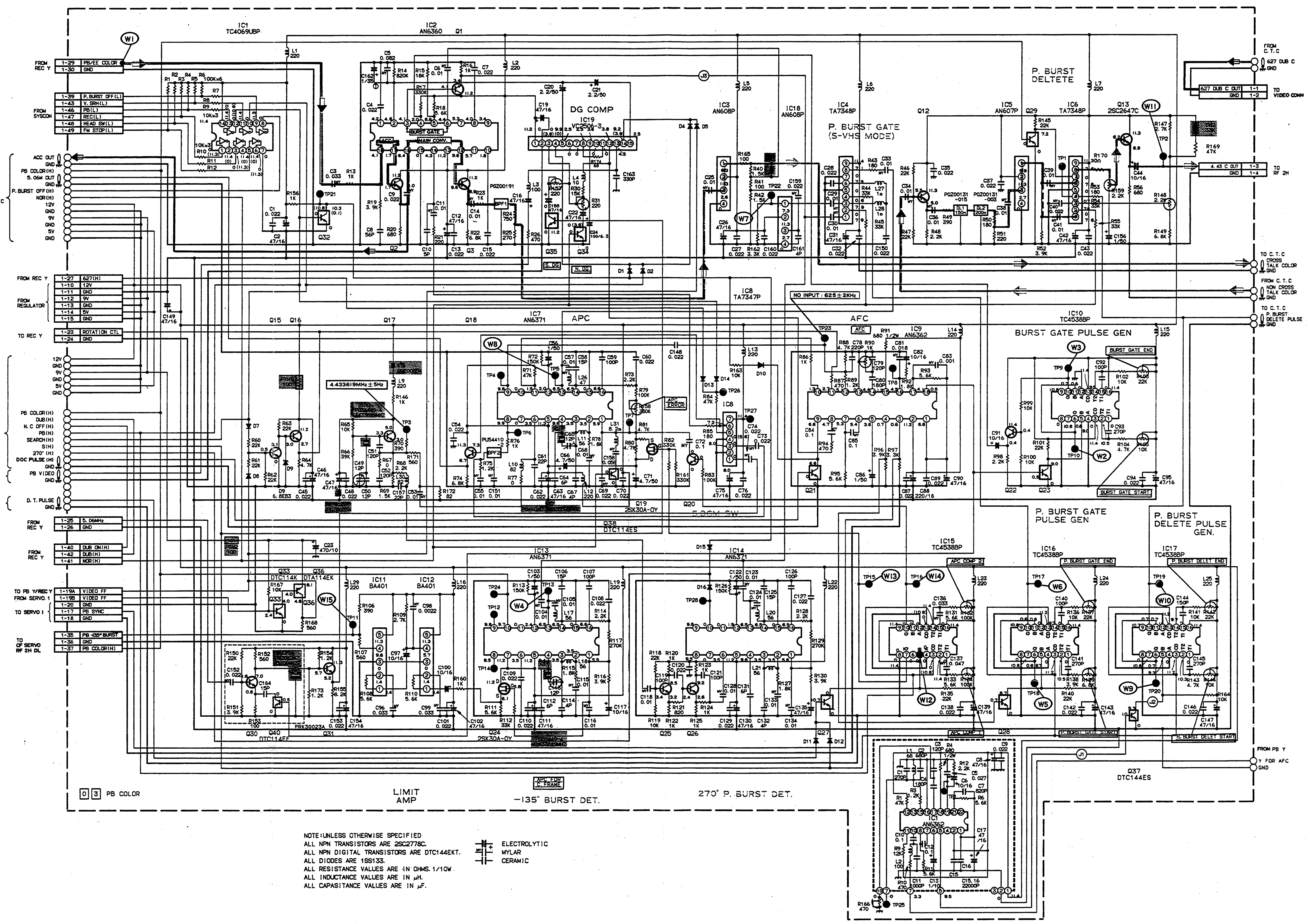
ELECTROLYTIC
CERAMIC
MY MYLAR

4.37 Y 2H DELAY CIRCUIT BOARD




6
5
4
3
2
1
A
B
C
4-41
4-41
E
F
G
H
LPF1
LPF2
LPF3
LPF4
DL1
DL2
DL3
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
CN1
CN2
CN3
TP1
TP2
TP3
TP4
TP5
TP6
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP20
TP21
TP22
6 5 PRK20019 A-02 B
Y 2H DELAY PWB ASS Y
PRK20019-01-02 Y 2H DELAY PWB
JVCD75VO
9 A 1

4.38 PB COLOUR SCHEMATIC DIAGRAM



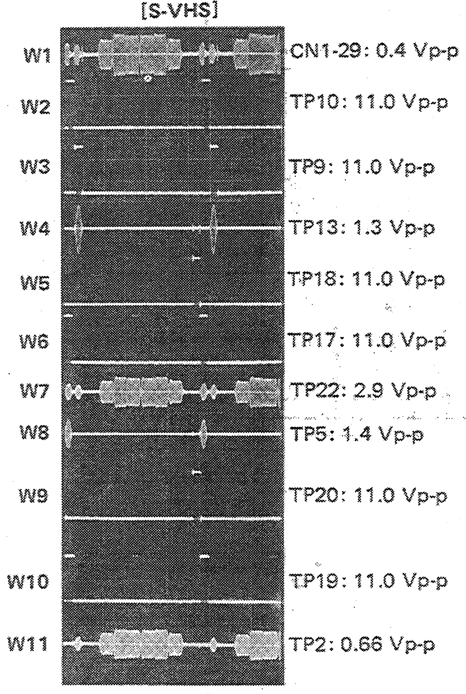
IC1 TC4069UBP
IC2 AN6360
BURST GATE
MAIN CONV.
DG COMP
IC19 VC2506-3
S. DG
N. DG
IC3 AN608P
IC18 AN608P
IC4 TA7348P
P. BURST GATE (S-VHS MODE)
IC5 AN607P
P. BURST DELTETE
IC6 TA7348P
Q13 2SC2647C
FROM REC Y
FROM SYSCON
TO C.T.C
FROM REGULATOR
TO REC Y
FROM PB Y
FROM Y 2H DL
FROM PB Y
FROM REC Y
TO PB Y/REC Y
FROM SERVO 1
TO SERVO I
TO OF SERVO RF 2H DL
FROM C.T.C 627 DUB C
TO VIDEO CONN
TO RF 2H
TO C.T.C CROSS TALK COLOR
FROM C.T.C NON CROSS TALK COLOR
TO C.T.C P. BURST DELETE PULSE
IC7 AN6371
APC
APC ERROR
IC8 TA7347P
NO INPUT : 625±2KHz
AFC
IC9 AN6362
IC10 TC4538BP
BURST GATE PULSE GEN
BURST GATE END
BURST GATE START
4.433619MHz±5Hz
Q19 2SK30A-OY
Q20
Q38 DTC114ES
IC11 BA401
IC12 BA401
IC13 AN6371
IC14 AN6371
Q24 2SK30A-OY
Q33 DTC114K
Q36 DTA114EK
Q40 DTC114EE
PRK30023A
IC15 TC4538BP
APC COMP 2
IC16 TC4538BP
P. BURST GATE PULSE GEN
P. BURST GATE END
P. BURST GATE START
IC17 TC4538BP
P. BURST DELETE PULSE GEN.
P. BURST DELET END
P. BURST DELET START
Q37 DTC144ES
IC1 AN6362
FROM PB Y
Y FOR AFC
GND
0 3 PB COLOR
LIMIT AMP
APC FOR C FRAME
-135° BURST DET.
270° P. BURST DET.
A
B
C
D
E
F
G
H
1
2
3
4
5
6

NOTE:UNLESS OTHERWISE SPECIFIED
ALL NPN TRANSISTORS ARE 2SC2778C.
ALL NPN DIGITAL TRANSISTORS ARE DTC144EKT.
ALL DIODES ARE 1SS133.
ALL RESISTANCE VALUES ARE IN OHMS. 1/10W
ALL INDUCTANCE VALUES ARE IN µH.
ALL CAPASITANCE VALUES ARE IN µF.

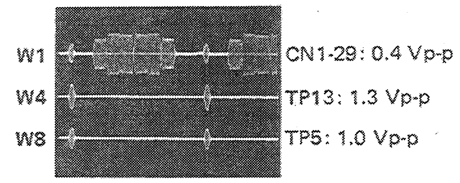
ELECTROLYTIC
MYLAR
CERAMIC

4.39 PB COLOUR CIRCUIT BOARD

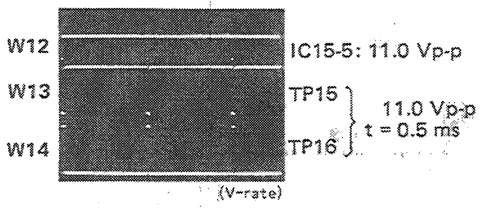
REC. PB MODE
[S-VHS]



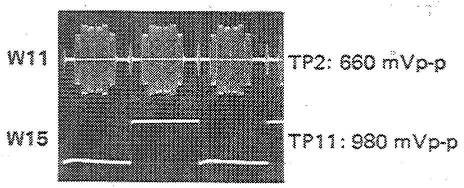
REC. PB MODE
[VHS]

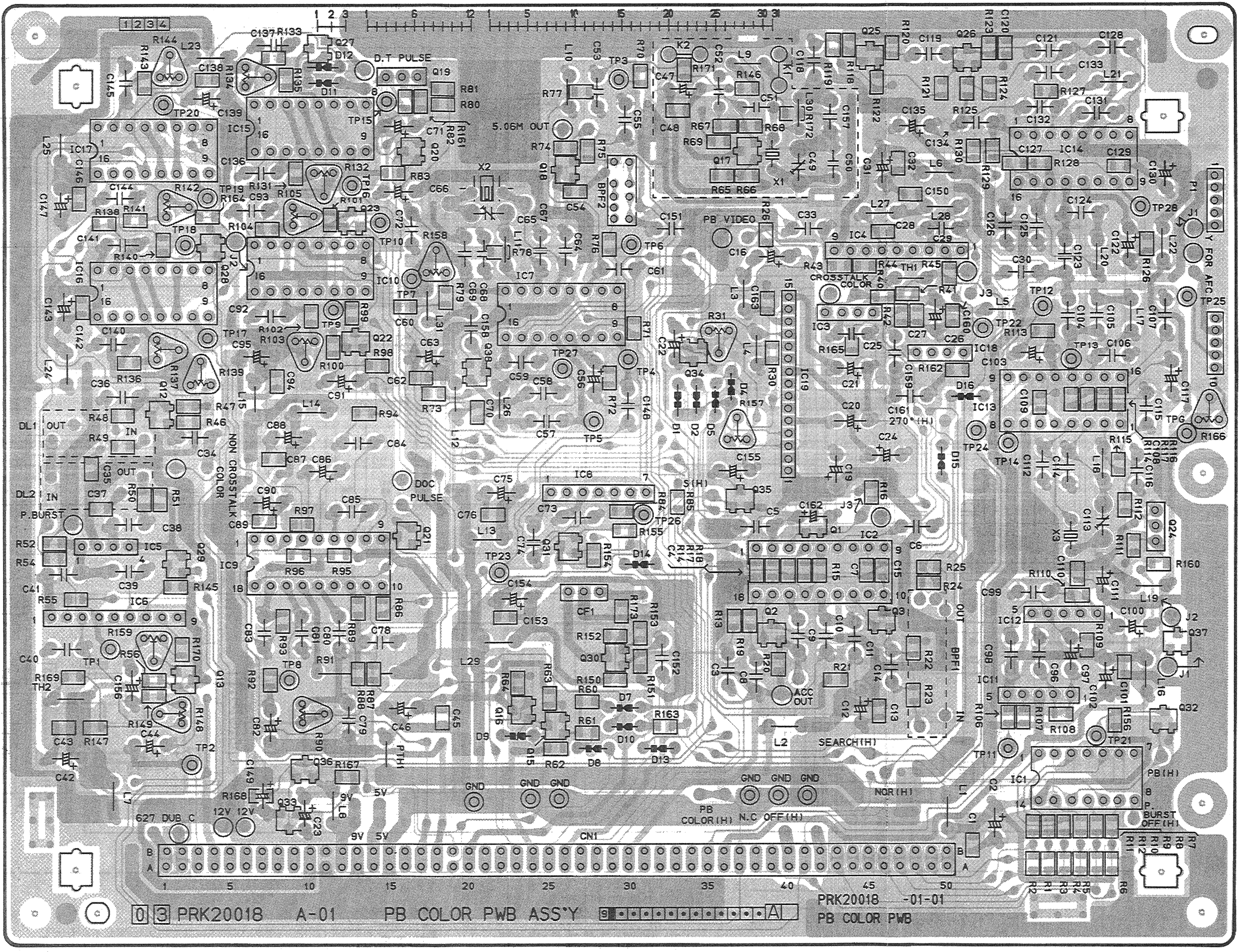


PB MODE



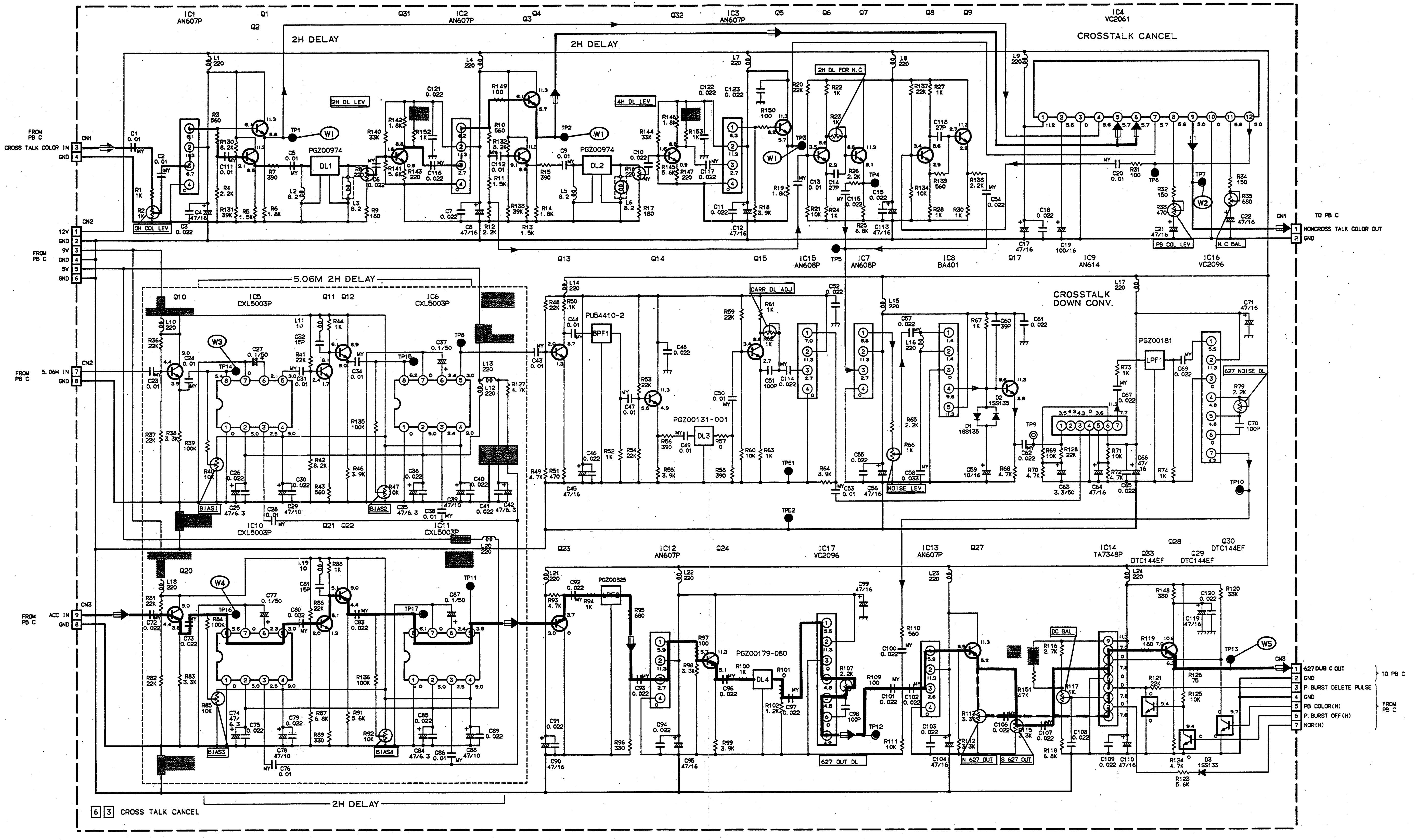
REC. PB MODE




D.T PULSE
5.06M OUT
PB VIDEO
CROSSTALK COLOR
NON CROSSTALK COLOR
DOC PULSE
P.BURST
ACC OUT
SEARCH(H)
NOR(H)
PB COLOR(H)
N.C OFF(H)
PB(H)
P.BURST OFF(H)
Y FOR AFC
GND
DUB
CN1
03 PRK20018 A-01 PB COLOR PWB ASS'Y
PRK20018 -01-01
PB COLOR PWB

5
4
3
2
1
A
B
C
E
F
G
H

4.40 CROSSTALK CANCEL SCHEMATIC DIAGRAM


IC1 AN607P
Q1
Q2
Q31
IC2 AN607P
Q4
Q3
Q32
IC3 AN607P
Q5
Q6
Q7
Q8
Q9
IC4 VC2061
CROSSTALK CANCEL
2H DELAY
2H DELAY
2H DL LEV
4H DL LEV
2H DL FOR N.C
FROM PB C
CROSS TALK COLOR IN
GND
CN1
CN2
12V
9V
5V
5.06M IN
ACC IN
CN3
TO PB C
NONCROSS TALK COLOR OUT
PGZ00974
DL1
DL2
OH COL LEV
PB COL LEV
N.C BAL
TP1
TP2
TP3
TP4
TP5
TP6
TP7
W1
W2
W3
W4
W5
Q13
Q14
Q15
IC15 AN608P
IC7 AN608P
IC8 BA401
Q17
IC9 AN614
IC16 VC2096
5.06M 2H DELAY
Q10
IC5 CXL5003P
Q11
Q12
IC6 CXL5003P
CARR DL ADJ
PU54410-2
BPF1
PGZ00131-001
DL3
CROSSTALK DOWN CONV.
PGZ00181
LPF1
627 NOISE DL
NOISE LEV
BIAS1
BIAS2
BIAS3
BIAS4
IC10 CXL5003P
Q21
Q22
IC11 CXL5003P
Q20
Q23
IC12 AN607P
Q24
IC17 VC2096
IC13 AN607P
Q27
IC14 TA7348P
Q28
Q33 DTC144EF
Q29 DTC144EF
Q30 DTC144EF
PGZ00325
BPF2
PGZ00179-080
DL4
627 OUT DL
N 627 OUT
S 627 OUT
DC BAL
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TPE1
TPE2
627DUB C OUT
P. BURST DELETE PULSE
PB COLOR(H)
P. BURST OFF(H)
NOR(H)
FROM PB C
D1 1SS135
D2 1SS135
D3 1SS133
2H DELAY
6 3 CROSS TALK CANCEL
6
5
4
3
2
1
A
B
C
E
F
G
H

LINE/Y/C 443 OUT SIGNAL PATH

Y/C 627 OUT { S-VHS MODE SIGNAL PATH
VHS MODE SIGNAL PATH

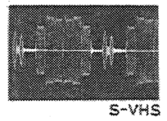
NOTE:UNLESS OTHERWISE SPECIFIED
ALL NPN TRANSISTORS ARE 2SC2647C.
ALL PNP TRANSISTORS ARE 2SB641Q.
ALL RESISTANCE VALUES ARE IN OHMS. (1/6W)
ALL INDUCTANCE VALUES ARE IN μH.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MY MYLAR

4.41 CROSSTALK CANCEL CIRCUIT BOARD

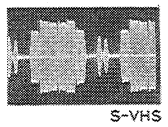
REC. PB MODE

W1



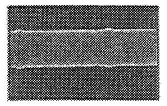
TP1/TP2/TP3
2.4 Vp-p

W2



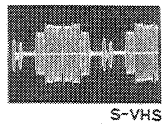
TP7
1.0 Vp-p

W3



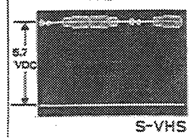
TP14
540 mVp-p
5.06 MHz

W4

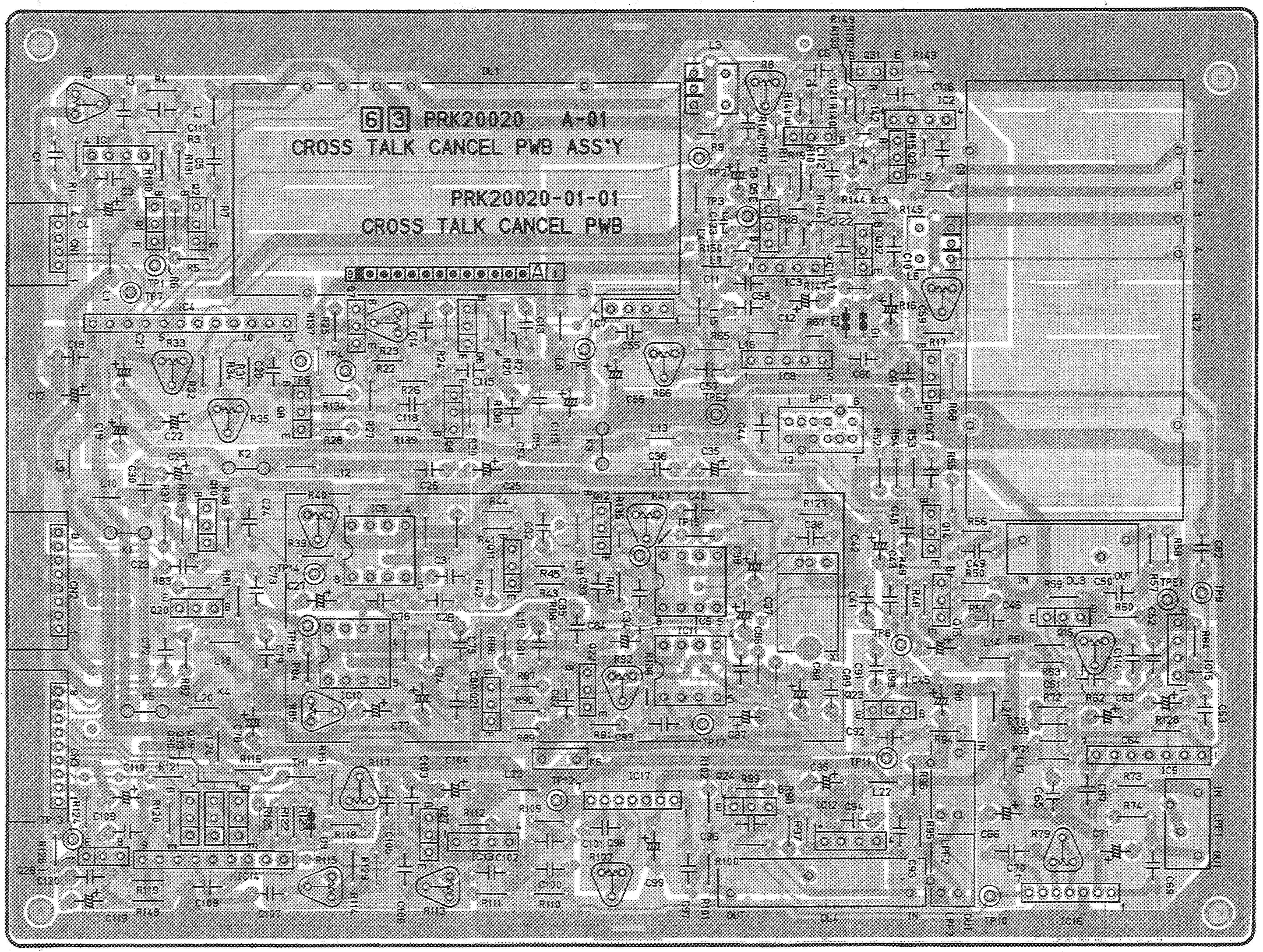


TP16
400 mVp-p

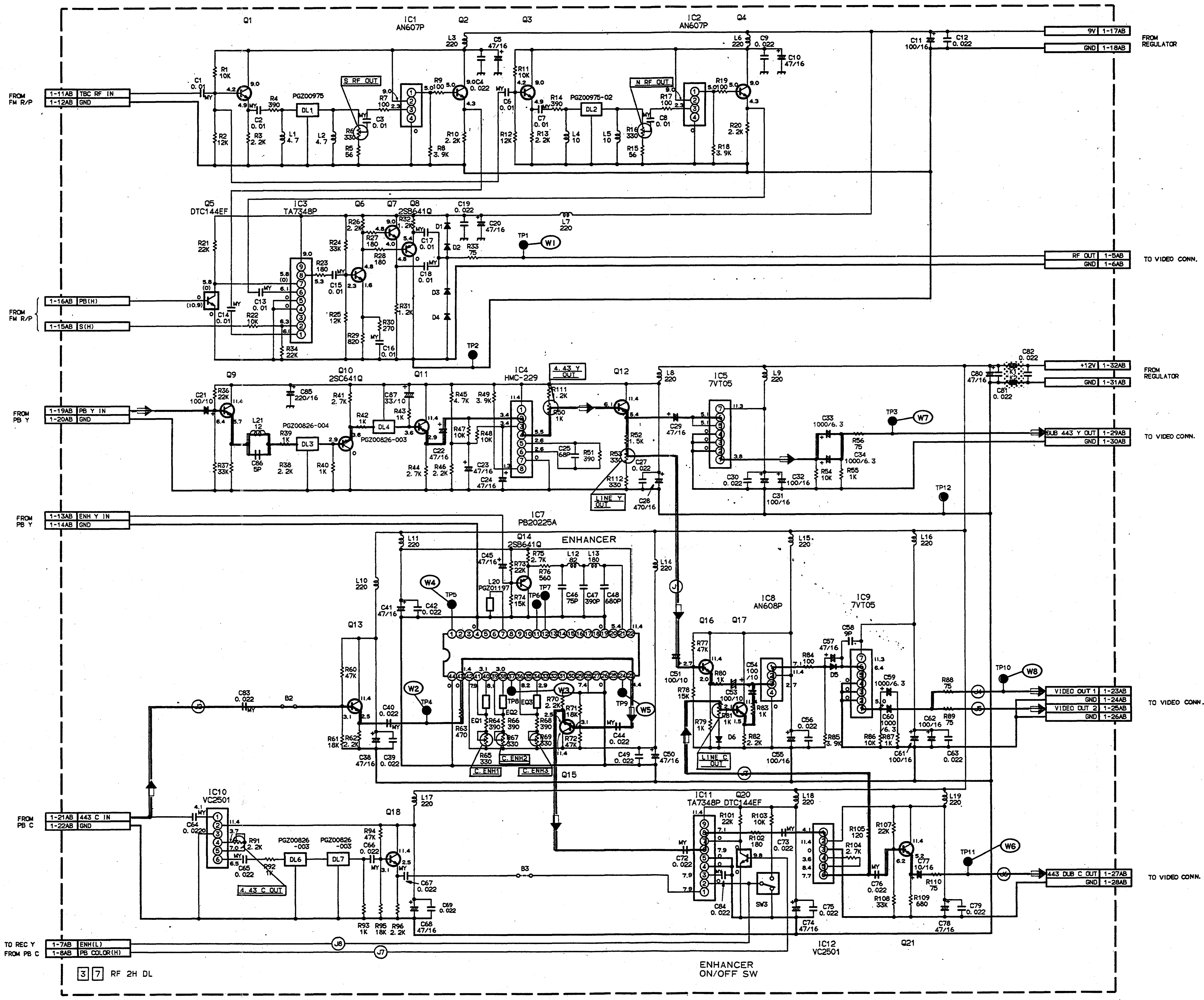
W5



TP13
0.9 Vp-p
(1 kΩ)


6
5
4
3
2
1
A
B
C
E
F
G
H
6 3 PRK20020 A-01
CROSS TALK CANCEL PWB ASS'Y
PRK20020-01-01
CROSS TALK CANCEL PWB
DL1
DL2
DL3
DL4
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC16
IC17
BPF1
LPF1
LPF2
CN1
CN2
CN3
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TPE1
TPE2
K1
K2
K3
K4
K5
K6
TH1
IN
OUT

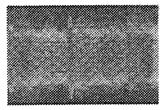
4.42 RF 2H DELAY & C ENHANCER SCHEMATIC DIAGRAM


FROM FM R/P
1-11AB TBC RF IN
1-12AB GND
FROM FM R/P
1-16AB PB(H)
1-15AB S(H)
FROM PB Y
1-19AB PB Y IN
1-20AB GND
FROM PB Y
1-13AB ENH Y IN
1-14AB GND
FROM PB C
1-21AB 443 C IN
1-22AB GND
TO REC Y
FROM PB C
1-7AB ENH(L)
1-8AB PB COLOR(H)
3 7 RF 2H DL
Q1
IC1 AN607P
Q2
Q3
IC2 AN607P
Q4
S RF OUT
N RF OUT
DL1
DL2
PGZ00975
PGZ00975-02
Q5 DTC144EF
IC3 TA7348P
Q6
Q7
Q8 2SB641Q
TP1
W1
TP2
Q9
Q10 2SC641Q
Q11
IC4 HMC-229
4.43 Y OUT
Q12
IC5 7VT05
DL3
DL4
PGZ00826-004
PGZ00826-003
LINE Y OUT
TP3
W7
TP12
IC7 PB20225A
ENHANCER
Q14 2SB641Q
PGZ01197
W4
TP5
TP6
TP7
Q13
W2
TP4
W3
TP8
TP9
W5
C ENH1
C ENH2
C ENH3
Q15
IC8 AN608P
Q16
Q17
IC9 7VT05
LINE C OUT
TP10
W8
IC10 VC2501
Q18
DL6
DL7
PGZ00826 -003
4.43 C OUT
B2
B3
IC11 TA7348P
Q20 DTC144EF
SW3
IC12 VC2501
Q21
TP11
W6
ENHANCER ON/OFF SW
9V 1-17AB
GND 1-18AB
FROM REGULATOR
RF OUT 1-5AB
GND 1-6AB
TO VIDEO CONN.
+12V 1-32AB
GND 1-31AB
FROM REGULATOR
DUB 443 Y OUT 1-29AB
GND 1-30AB
TO VIDEO CONN.
VIDEO OUT 1 1-23AB
GND 1-24AB
VIDEO OUT 2 1-25AB
GND 1-26AB
TO VIDEO CONN.
443 DUB C OUT 1-27AB
GND 1-28AB
TO VIDEO CONN.

NOTE:UNLESS OTHERWISE SPECIFIED
ALL NPN TRANSISTORS ARE 2SC2647C
ALL RESISTANCE VALUES ARE IN OHMS. (1/6W)
ALL INDUCTANCE VALUES ARE IN µH.
ALL CAPACITANCE VALUES ARE IN µF.
ELECTROLYTIC
CERAMIC
MYLAR

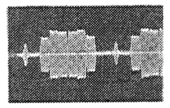
4.43 RF 2H DELAY & C ENHANCER CIRCUIT BOARD

W1

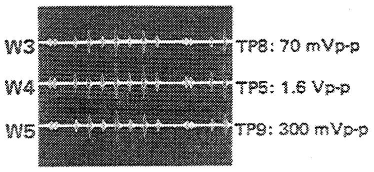


TP1
V BLK: 0.5 Vp-p
(75 Ω) [PB]

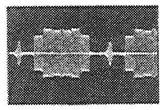
W2



TP4
BURST: 0.3 Vp-p

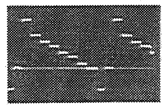


W6



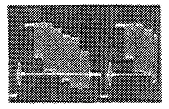
TP11
BURST: 0.3 Vp-p
(75 Ω)

W7

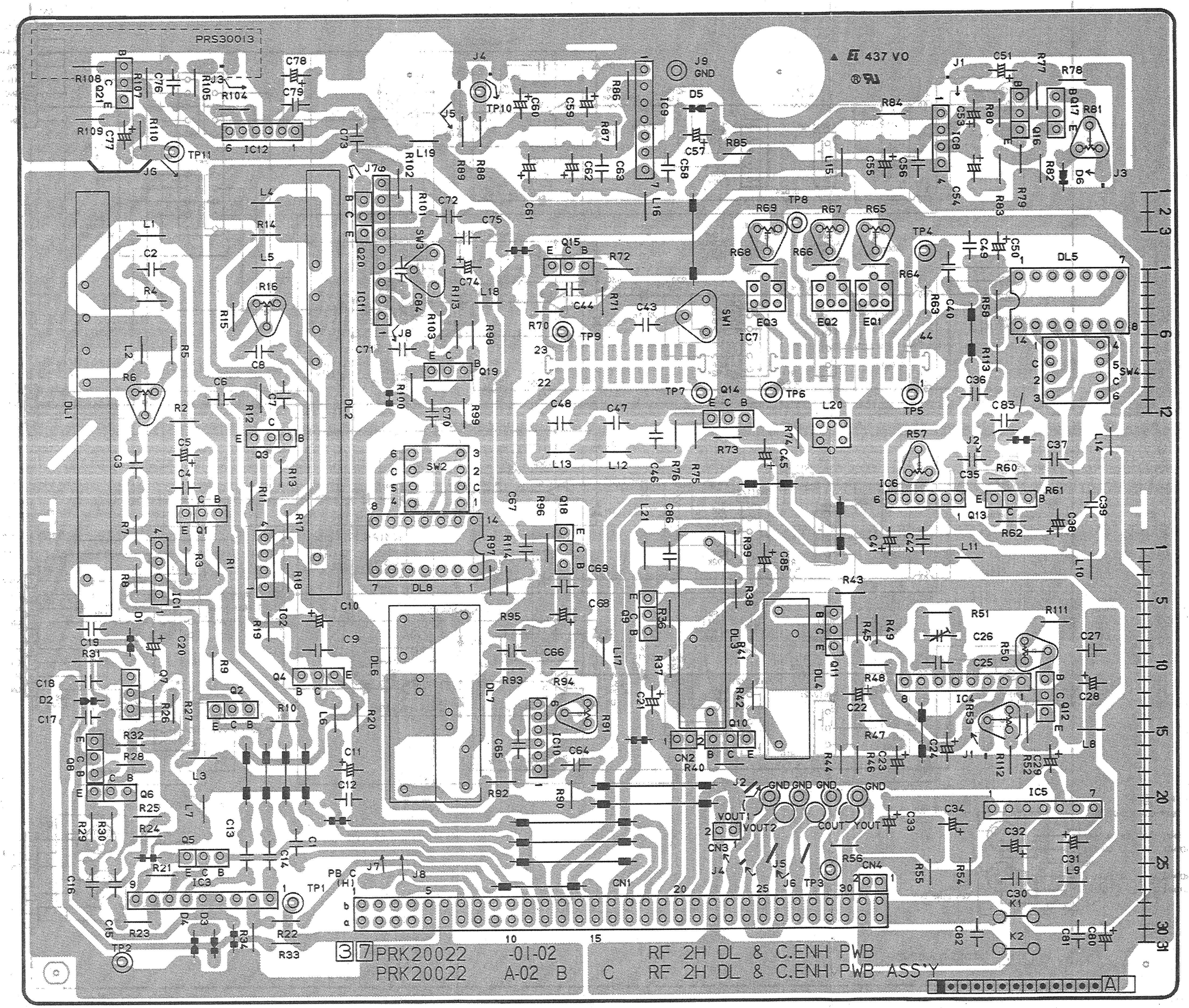


TP3
1.0 Vp-p (75 Ω)

W8

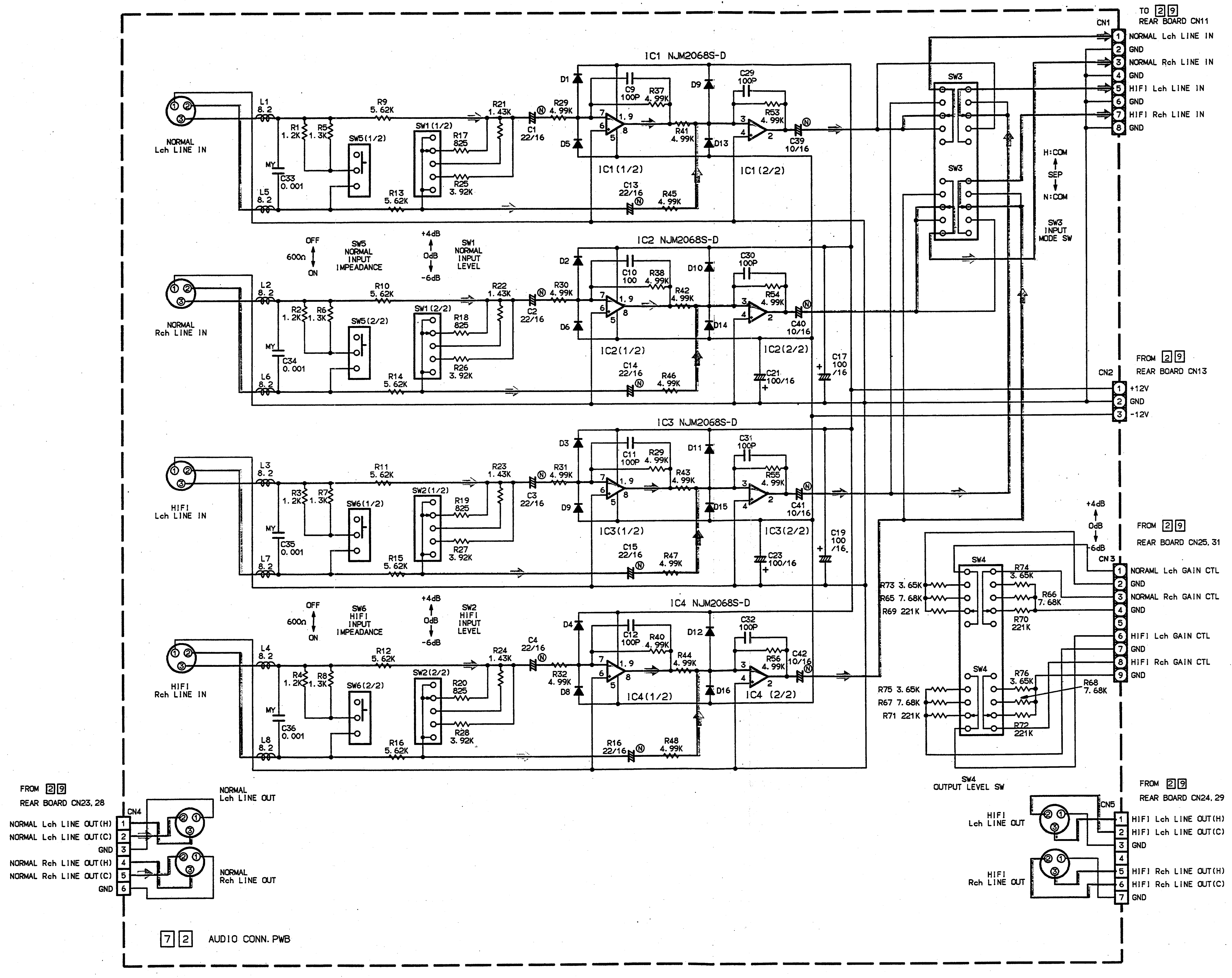


TP10
1.0 Vp-p (75 Ω)


PRS30013
J9 GND
D5
▲ 437 V0
DL1
DL2
DL3
DL4
DL5
DL6
DL7
DL8
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
SW1
SW2
SW3
SW4
EQ1
EQ2
EQ3
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
CN1
CN2
CN3
CN4
GND GND GND GND
VOUT1
VOUT2
COUT
YOUT
K1
K2
PB C (H)
3 7 PRK20022 -01-02 RF 2H DL & C.ENH PWB
PRK20022 A-02 B C RF 2H DL & C.ENH PWB ASS'Y

A B C 4-47 4-47 E F G H

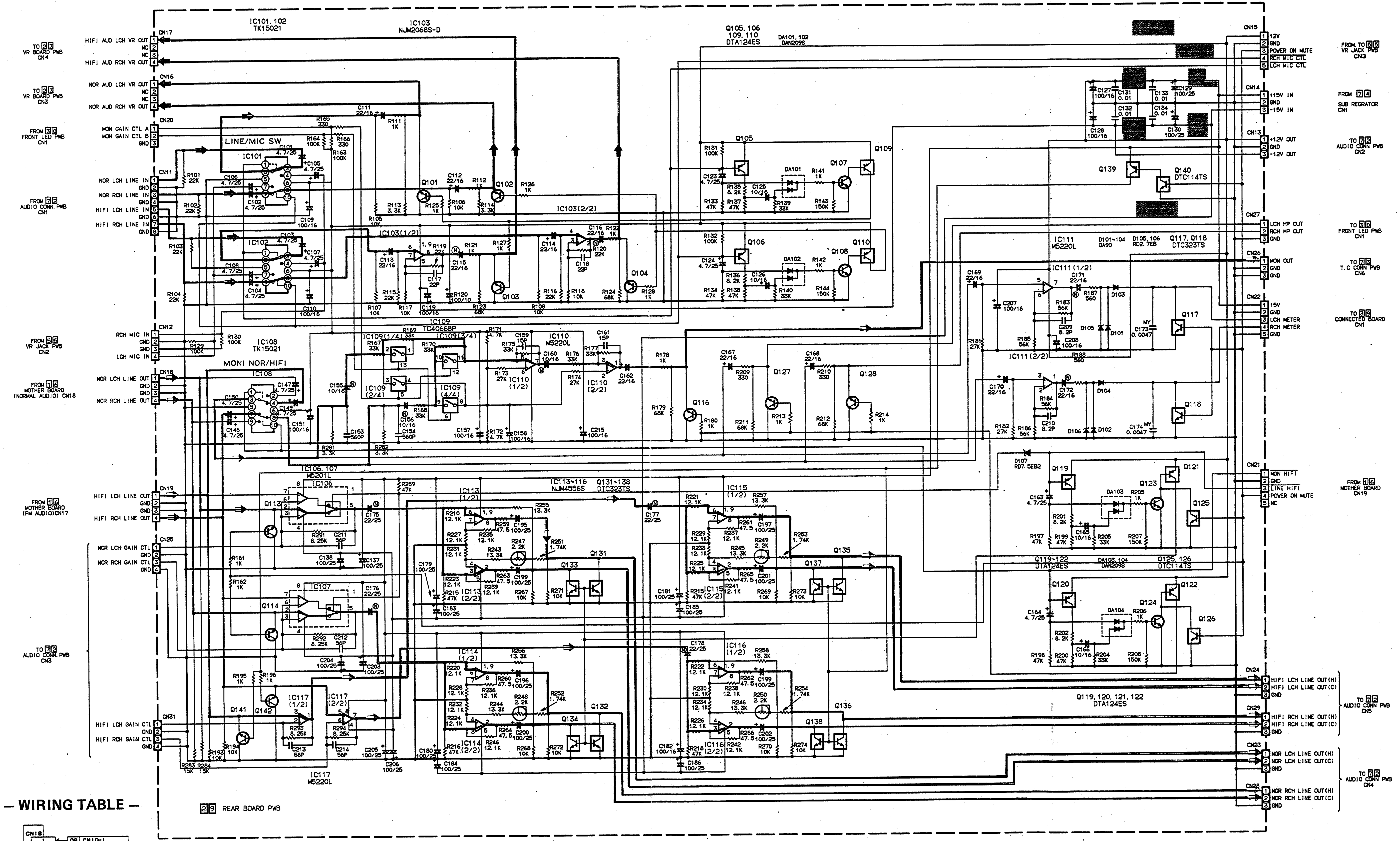
4.44 AUDIO CONNECTOR SCHEMATIC DIAGRAM


TO 2 9 REAR BOARD CN11
CN1
1 NORMAL Lch LINE IN
2 GND
3 NORMAL Rch LINE IN
4 GND
5 HIFI Lch LINE IN
6 GND
7 HIFI Rch LINE IN
8 GND
IC1 NJM2068S-D
IC2 NJM2068S-D
IC3 NJM2068S-D
IC4 NJM2068S-D
NORMAL Lch LINE IN
NORMAL Rch LINE IN
HIFI Lch LINE IN
HIFI Rch LINE IN
SW3
H:COM
SEP
N:COM
SW3 INPUT MODE SW
OFF
600Ω
ON
SW5 NORMAL INPUT IMPEADANCE
+4dB
0dB
-6dB
SW1 NORMAL INPUT LEVEL
SW6 HIFI INPUT IMPEADANCE
SW2 HIFI INPUT LEVEL
FROM 2 9 REAR BOARD CN13
CN2
1 +12V
2 GND
3 -12V
FROM 2 9 REAR BOARD CN25, 31
CN3
1 NORAML Lch GAIN CTL
2 GND
3 NORMAL Rch GAIN CTL
4 GND
5
6 HIFI Lch GAIN CTL
7 GND
8 HIFI Rch GAIN CTL
9 GND
SW4
SW4 OUTPUT LEVEL SW
FROM 2 9 REAR BOARD CN24, 29
CN5
1 HIFI Lch LINE OUT(H)
2 HIFI Lch LINE OUT(C)
3 GND
4
5 HIFI Rch LINE OUT(H)
6 HIFI Rch LINE OUT(C)
7 GND
HIFI Lch LINE OUT
HIFI Rch LINE OUT
FROM 2 9 REAR BOARD CN23, 28
CN4
1 NORMAL Lch LINE OUT(H)
2 NORMAL Lch LINE OUT(C)
3 GND
4 NORMAL Rch LINE OUT(H)
5 NORMAL Rch LINE OUT(C)
6 GND
NORMAL Lch LINE OUT
NORMAL Rch LINE OUT
7 2 AUDIO CONN. PWB
L1 8.2
L5 8.2
R1 1.2K
R5 1.3K
SW5(1/2)
C33 0.001
R9 5.62K
R13 5.62K
SW1(1/2)
R17 825
R25 3.92K
R21 1.43K
C1 22/16
R29 4.99K
D1
D5
C9 100P
R37 4.99K
IC1(1/2)
R41 4.99K
C13 22/16
R45 4.99K
D9
D13
C29 100P
R53 4.99K
C39 10/16
IC1(2/2)
L2 8.2
L6 8.2
R2 1.2K
R6 1.3K
SW5(2/2)
C34 0.001
R10 5.62K
R14 5.62K
SW1(2/2)
R18 825
R26 3.92K
R22 1.43K
C2 22/16
R30 4.99K
D2
D6
C10 100
R38 4.99K
R42 4.99K
IC2(1/2)
C14 22/16
R46 4.99K
D10
D14
C30 100P
R54 4.99K
C40 10/16
IC2(2/2)
C21 100/16
C17 100 /16
L3 8.2
L7 8.2
R3 1.2K
R7 1.3K
SW6(1/2)
C35 0.001
R11 5.62K
R15 5.62K
SW2(1/2)
R19 825
R27 3.92K
R23 1.43K
C3 22/16
R31 4.99K
D3
D9
C11 100P
R29 4.99K
R43 4.99K
IC3(1/2)
C15 22/16
R47 4.99K
D11
D15
C31 100P
R55 4.99K
C41 10/16
IC3(2/2)
C23 100/16
C19 100 /16
L4 8.2
L8 8.2
R4 1.2K
R8 1.3K
SW6(2/2)
C36 0.001
R12 5.62K
R16 5.62K
SW2(2/2)
R20 825
R28 3.92K
R24 1.43K
C4 22/16
R32 4.99K
D4
D8
C12 100P
R40 4.99K
R44 4.99K
IC4(1/2)
R16 22/16
R48 4.99K
D12
D16
C32 100P
R56 4.99K
C42 10/16
IC4 (2/2)
R73 3.65K
R65 7.68K
R69 221K
R74 3.65K
R66 7.68K
R70 221K
R75 3.65K
R67 7.68K
R71 221K
R76 3.65K
R68 7.68K
R72 221K
MY

NOTES: Unless otherwise specified
1. All diodes are 1SS133
2. All resistance values are in ohms. (1/6 W).
3. All capacitance values are in μF.

+ ELECTROLYTIC
Ⓝ NON-POLARIZED
⊣⊢ CERAMIC
MY MYLAR

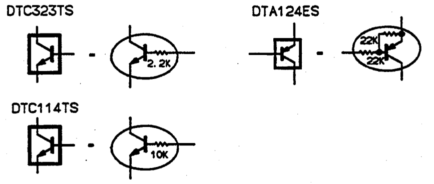
4.45 REAR SCHEMATIC DIAGRAM


TO 23 VR BOARD PWB CN4
CN17
HIFI AUD LCH VR OUT 1
NC 2
NC 3
HIFI AUD RCH VR OUT 4
TO 23 VR BOARD PWB CN3
CN16
NOR AUD LCH VR OUT 1
NC 2
NC 3
NOR AUD RCH VR OUT 4
FROM 30 FRONT LED PWB CN1
CN20
MON GAIN CTL A 1
MON GAIN CTL B 2
GND 3
FROM 72 AUDIO CONN. PWB CN1
CN11
NOR LCH LINE IN 1
GND 2
NOR RCH LINE IN 3
GND 4
HIFI LCH LINE IN 5
GND 6
HIFI RCH LINE IN 7
GND 8
FROM 55 VR JACK PWB CN2
CN12
RCH MIC IN 1
GND 2
GND 3
LCH MIC IN 4
FROM 16 MOTHER BOARD (NORMAL AUDIO) CN18
CN18
NOR LCH LINE OUT 1
GND 2
GND 3
NOR RCH LINE OUT 4
FROM 16 MOTHER BOARD (FM AUDIO)CN17
CN19
HIFI LCH LINE OUT 1
GND 2
GND 3
HIFI RCH LINE OUT 4
TO 72 AUDIO CONN. PWB CN3
CN25
NOR LCH GAIN CTL 1
GND 2
NOR RCH GAIN CTL 3
GND 4
CN31
HIFI LCH GAIN CTL 1
GND 2
HIFI RCH GAIN CTL 3
GND 4
IC101, 102 TK15021
IC103 NJM2068S-D
LINE/MIC SW
IC101
IC102
IC103(1/2)
IC103(2/2)
C101 4.7/25
C102 4.7/25
C103 4.7/25
C104 4.7/25
C105 4.7/25
C106 4.7/25
C107 4.7/25
C108 4.7/25
C109 100/16
C110 100/16
C111 22/16
C112 22/16
C113 22/16
C114 22/16
C115 22/16
C116 22/16
C117 22P
C118 22P
C119 100/16
R101 22K
R102 22K
R103 22K
R104 22K
R105 10K
R106 10K
R107 10K
R108 10K
R111 1K
R112 1K
R113 3.3K
R114 3.3K
R115 22K
R116 22K
R117 10K
R118 10K
R119 22K
R120 100/10
R120 22K
R121 1K
R122 1K
R123 68K
R124 68K
R125 1K
R126 1K
R127 1K
R128 1K
R163 100K
R164 100K
R165 330
R166 330
Q101
Q102
Q103
Q104
1.9
Q105, 106 109, 110 DTA124ES
DA101, 102 DAN209S
Q105
Q106
Q107
Q108
Q109
Q110
DA101
DA102
R131 100K
R132 100K
R133 47K
R134 47K
R135 8.2K
R136 8.2K
R137 47K
R138 47K
R139 33K
R140 33K
R141 1K
R142 1K
R143 150K
R144 150K
C123 4.7/25
C124 4.7/25
C125 10/16
C126 10/16
[redacted]
[redacted]
[redacted]
[redacted]
[redacted]
[redacted]
[redacted]
CN15
12V 1
GND 2
POWER ON MUTE 3
RCH MIC CTL 4
LCH MIC CTL 5
FROM, TO 55 VR JACK PWB CN3
CN14
+15V IN 1
GND 2
-15V IN 3
FROM 74 SUB REGRATOR CN1
CN13
+12V OUT 1
GND 2
-12V OUT 3
TO 72 AUDIO CONN PWB CN2
C127 100/16
C128 100/16
C129 100/25
C130 100/25
C131 0.01
C132 0.01
C133 0.01
C134 0.01
Q139
Q140 DTC114TS
CN27
LCH HP OUT 1
RCH HP OUT 2
GND 3
TO 30 FRONT LED PWB CN1
CN26
MON OUT 1
GND 2
GND 3
TO 73 T.C CONN PWB CN6
CN22
15V 1
GND 2
LCH METER 3
RCH METER 4
GND 5
TO 39 CONNECTED BOARD CN1
IC111 M5220L
D101~104 OA90
D105, 106 RD2.7EB
Q117, Q118 DTC323TS
IC111(1/2)
IC111(2/2)
C169 22/16
C170 22/16
C171 22/16
C172 22/16
C173 0.0047
C174 0.0047
MY
C207 100/16
C208 100/16
C209 8.2P
C210 8.2P
R181 27K
R182 27K
R183 56K
R184 56K
R185 56K
R186 56K
R187 560
R188 560
D101
D102
D103
D104
D105
D106
Q117
Q118
IC108 TK15021
MONI NOR/HIFI
IC108
C147 4.7/25
C148 4.7/25
C149 4.7/25
C150 4.7/25
C151 100/16
C153 560P
C154 560P
C155 10/16
C156 10/16
C157 100/16
C158 100/16
R129 100K
R130 100K
R167 33K
R168 33K
R169 33K
R170 33K
R171 4.7K
R172 4.7K
R173 27K
R174 27K
R175 33K
R176 33K
R177 33K
R178 1K
R179 68K
R180 1K
R281 3.3K
R282 3.3K
IC109 TC4066BP
IC109(1/4)
IC109(2/4)
IC109(3/4)
IC109(4/4)
IC110 M5220L
IC110 (1/2)
IC110 (2/2)
C159 15P
C160 10/16
C161 15P
C162 22/16
C215 100/16
Q116
Q127
Q128
C167 22/16
C168 22/16
R209 330
R210 330
R211 68K
R212 68K
R213 1K
R214 1K
IC106, 107 M5201L
IC106
IC107
Q113
Q114
R161 1K
R162 1K
R289 47K
R291 8.25K
R292 8.25K
C211 56P
C212 56P
C137 100/25
C138 100/25
C175 22/25
C176 22/25
C203 100/25
C204 100/25
IC113~116 NJM4556S
Q131~138 DTC323TS
IC113 (1/2)
IC113 (2/2)
IC114 (1/2)
IC114 (2/2)
IC115 (1/2)
IC115 (2/2)
IC116 (1/2)
IC116 (2/2)
R210 12.1K
R220 12.1K
R221 12.1K
R222 12.1K
R223 12.1K
R224 12.1K
R225 12.1K
R226 12.1K
R227 12.1K
R228 12.1K
R229 12.1K
R230 12.1K
R231 12.1K
R232 12.1K
R233 12.1K
R234 12.1K
R235 12.1K
R236 12.1K
R237 12.1K
R238 12.1K
R239 12.1K
R241 12.1K
R242 12.1K
R243 13.3K
R244 13.3K
R245 13.3K
R246 13.3K
R246 12.1K
R247 2.2K
R248 2.2K
R249 2.2K
R250 2.2K
R251 1.74K
R252 1.74K
R253 1.74K
R254 1.74K
R255 13.3K
R256 13.3K
R257 13.3K
R258 13.3K
R259 47.5
R260 47.5
R261 47.5
R262 47.5
R263 47.5
R264 47.5
R265 47.5
R266 47.5
R267 10K
R268 10K
R269 10K
R270 10K
R271 10K
R272 10K
R273 10K
R274 10K
R215 47K
R216 47K
R218 47K
C177 22/25
C178 22/25
C179 100/25
C180 100/25
C181 100/25
C182 100/16
C183 100/25
C184 100/25
C185 100/25
C186 100/25
C195 100/25
C196 100/25
C197 100/25
C199 100/25
C200 100/25
C201 100/25
C202 100/25
Q131
Q132
Q133
Q134
Q135
Q136
Q137
Q138
Q141
Q142
IC117 (1/2)
IC117 (2/2)
IC117 M5220L
R193 10K
R194 10K
R195 1K
R196 1K
R283 15K
R284 15K
R293 8.25K
R294 8.25K
C205 100/25
C206 100/25
C213 56P
C214 56P
D107 RD7.5EB2
Q119
Q120
Q121
Q122
Q123
Q124
Q125
Q126
DA103
DA104
C163 4.7/25
C164 4.7/25
C165 10/16
C166 10/16
R197 47K
R198 47K
R199 47K
R200 47K
R201 8.2K
R202 8.2K
R204 33K
R205 1K
R205 33K
R206 1K
R207 150K
R208 150K
Q119~122 DTA124ES
DA103, 104 DAN209S
Q125, 126 DTC114TS
CN21
MON HIFI 1
GND 2
LINE HIFI 3
POWER ON MUTE 4
NC 5
FROM 16 MOTHER BOARD CN19
Q119, 120, 121, 122 DTA124ES
CN24
HIFI LCH LINE OUT(H) 1
HIFI LCH LINE OUT(C) 2
GND 3
CN29
HIFI RCH LINE OUT(H) 1
HIFI RCH LINE OUT(C) 2
GND 3
TO 72 AUDIO CONN PWB CN5
CN23
NOR LCH LINE OUT(H) 1
NOR LCH LINE OUT(C) 2
GND 3
CN28
NOR RCH LINE OUT(H) 1
NOR RCH LINE OUT(C) 2
GND 3
TO 72 AUDIO CONN PWB CN4
29 REAR BOARD PWB
6
5
4
3
2
1
A
B
C
E
F
G
H

— WIRING TABLE —

CN18	1	08	CN10-1
	2	08	CN10-2
	3	08	CN10-3
	4	08	CN10-4
CN19	1	07	CN5-32
	2	07	CN5-31
	3	07	CN5-29
	4	07	CN5-30
CN21	1	30	CN4-5
	2	30	CN4-6
	3	22	CN1-7
	4	08	CN10-6
	5		

29

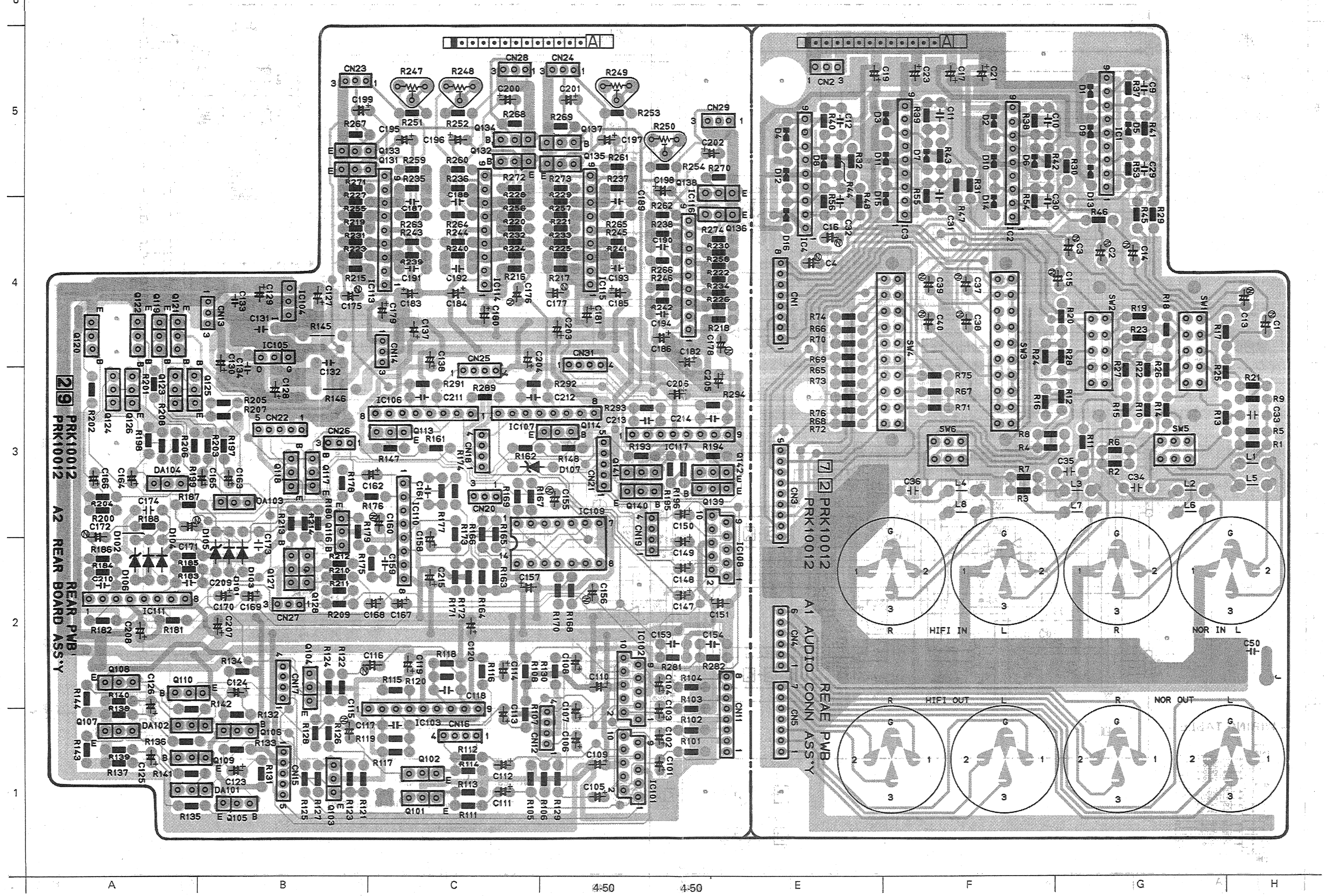

DTC323TS
2.2K
DTA124ES
22K
22K
DTC114TS
10K

NOTES: Unless otherwise specified

1. All npn transistors are 2SD1423S.
2. All resistance values are in ohms. (1/6 W).
3. All capacitance values are in μF.

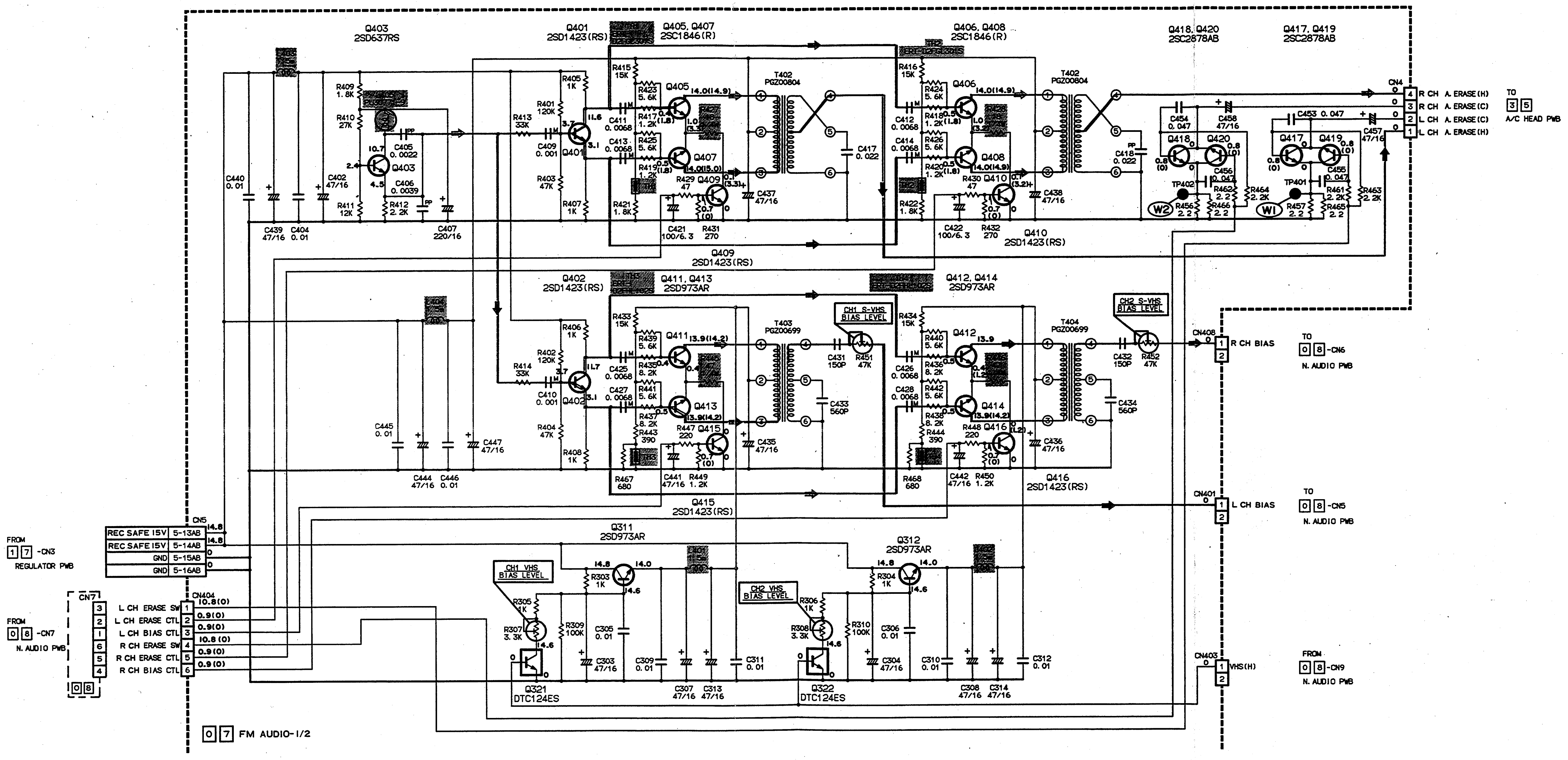
╪ ELECTROLYTIC
┤├ CERAMIC
MY┤├ MYLAR

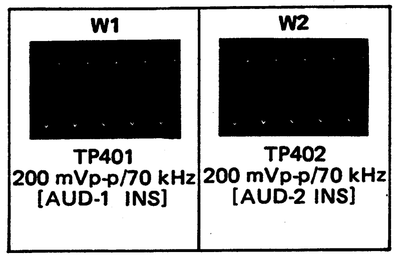
4.46 AUDIO CONNECTOR/REAR CIRCUIT BOARDS


A2 REAR BOARD ASS'Y
REAR PWB
PRK10012
A1 AUDIO CONN ASS'Y
REAE PWB
PRK10012
HIFI IN
NOR IN
HIFI OUT
NOR OUT
R
L
A
B
C
D
E
F
G
H
1
2
3
4
5
6
4-50
4-50

4.47 FM AUDIO SCHEMATIC DIAGRAM

– NORMAL AUDIO BIAS & ERASE SECTION –


Q403
2SD637RS
Q401
2SD1423(RS)
Q405, Q407
2SC1846(R)
Q406, Q408
2SC1846(R)
Q418, Q420
2SC2878AB
Q417, Q419
2SC2878AB
T402
PGZ00804
Q409
2SD1423(RS)
Q410
2SD1423(RS)
Q402
2SD1423(RS)
Q411, Q413
2SD973AR
Q412, Q414
2SD973AR
T403
PGZ00699
T404
PGZ00699
CH1 S-VHS BIAS LEVEL
CH2 S-VHS BIAS LEVEL
Q415
2SD1423(RS)
Q416
2SD1423(RS)
Q311
2SD973AR
Q312
2SD973AR
CH1 VHS BIAS LEVEL
CH2 VHS BIAS LEVEL
Q321
DTC124ES
Q322
DTC124ES
TP401
TP402
W1
W2
CN4
R CH A.ERASE(H)
R CH A.ERASE(C)
L CH A.ERASE(C)
L CH A.ERASE(H)
TO
3 5
A/C HEAD PWB
CN408
R CH BIAS
TO
0 8 -CN6
N. AUDIO PWB
CN401
L CH BIAS
TO
0 8 -CN5
N. AUDIO PWB
CN403
VHS(H)
FROM
0 8 -CN9
N. AUDIO PWB
CN5
REC SAFE 15V 5-13AB
REC SAFE 15V 5-14AB
GND 5-15AB
GND 5-16AB
FROM
1 7 -CN3
REGULATOR PWB
CN7
CN404
L CH ERASE SW
L CH ERASE CTL
L CH BIAS CTL
R CH ERASE SW
R CH ERASE CTL
R CH BIAS CTL
FROM
0 8 -CN7
N. AUDIO PWB
0 8
0 7 FM AUDIO-1/2

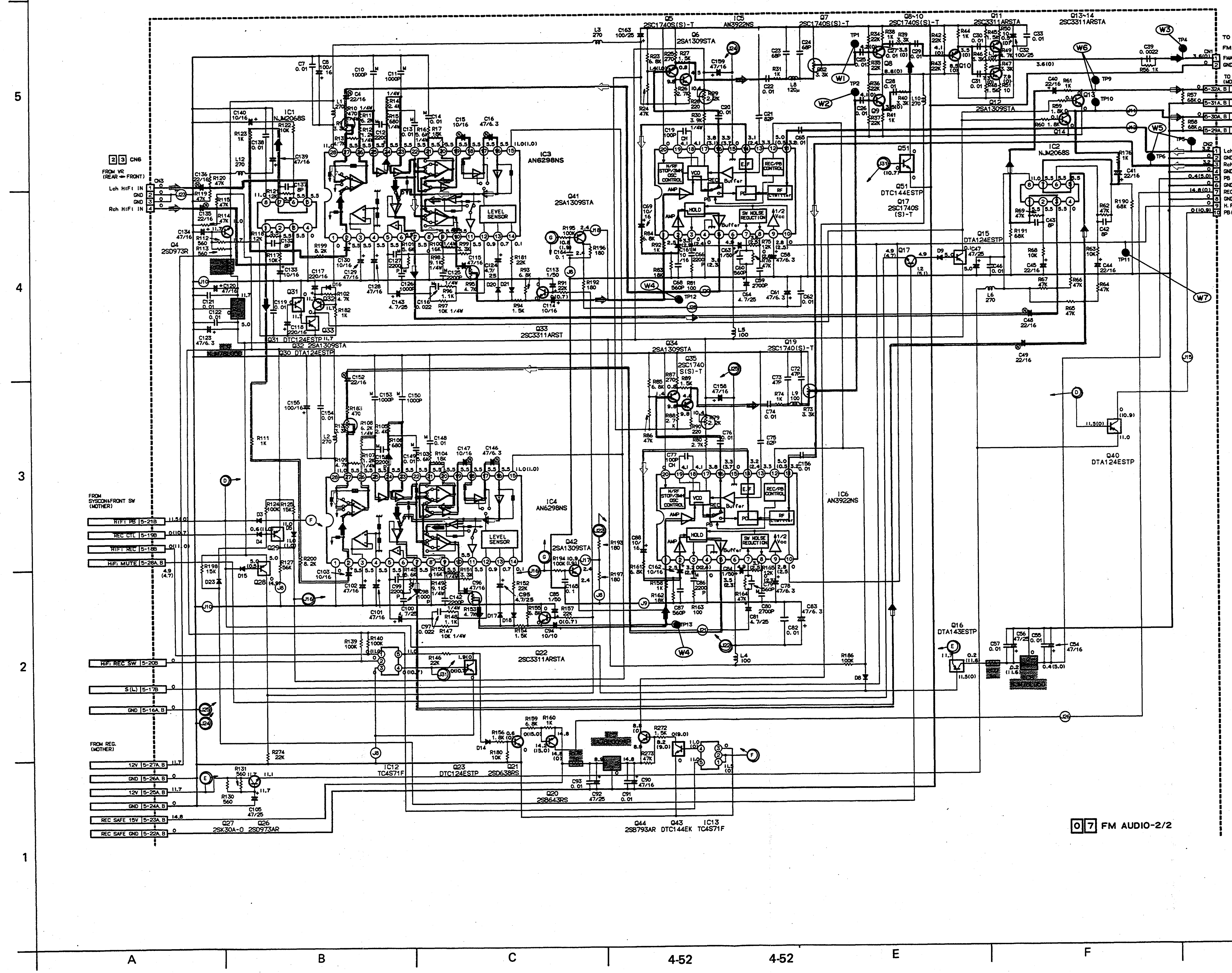


W1	W2
TP401 200 mVp-p/70 kHz [AUD-1 INS]	TP402 200 mVp-p/70 kHz [AUD-2 INS]

– WIRING TABLE –

0 7		1 7
5-13AB	←	CN3-1
5-14AB	←	CN3-1
5-15AB	←	CN3-2
5-16AB	←	CN3-2

– FM AUDIO SECTION –

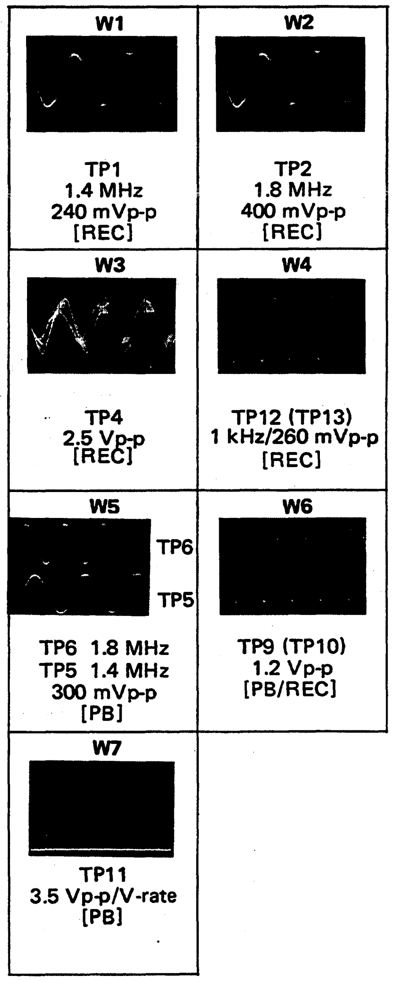


IC1 NJM2068S
IC2 NJM2068S
IC3 AN6298NS
IC4 AN6298NS
IC5 AN3922NS
IC6 AN3922NS
IC12 TC4S71F
IC13 TC4S71F
Q4 2SD973R
Q5 2SC1740S(S)-T
Q6 2SA1309STA
Q7 2SC1740S(S)-T
Q8~10 2SC1740S(S)-T
Q11 2SC3311ARSTA
Q12 2SA1309STA
Q13~14 2SC3311ARSTA
Q15 DTA124ESTP
Q16 DTA143ESTP
Q17 2SC1740S (S)-T
Q19 2SC1740(S)-T
Q20 2SB643RS
Q21 2SD638RS
Q22 2SC3311ARSTA
Q23 DTC124ESTP
Q26 2SD973AR
Q27 2SK30A-0
Q29
Q30 DTA124ESTP
Q31 DTC124ESTP
Q32 2SA1309STA
Q33 2SC3311ARST
Q34 2SA1309STA
Q35 2SC1740 S(S)-T
Q40 DTA124ESTP
Q41 2SA1309STA
Q42 2SA1309STA
Q43 DTC144EK
Q44 2SB793AR
Q51 DTC144ESTP
LEVEL SENSOR
N/RF STOP/3MHz OSC CONTROL
VCO
AMP
HOLD
SW NOISE REDUCTION
REC/PB CONTROL
Buffer
E.F
RF
PB
REC
TP1
TP2
TP4
TP5
TP6
TP9
TP10
TP11
TP12
TP13
W1
W2
W3
W4
W5
W6
W7
TO 0 9 CN7
FMA PRE
CN1
FMA REC RF
GND
TO REAR (MOTHER)
5-32A, B Lch LINE OUT
5-31A, B GND
5-30A, B Rch LINE OUT
5-29A, B GND
CN2
Lch RF
GND
Rch RF
GND
PB 5V
GND
REC 15V
GND
H. FF
PB(H)
FROM, TO 0 9 FMA. PRE CN5
2 3 CN6
FROM VR (REAR → FRONT)
CN3
Lch HiFi IN
GND
GND
Rch HiFi IN
FROM SYSCON/FRONT SW (MOTHER)
HiFi PB 5-21B
REC CTL 5-19B
HiFi REC 5-18B
HiFi MUTE 5-28A, B
HiFi REC SW 5-20B
S(L) 5-17B
GND 5-16A, B
FROM REG. (MOTHER)
12V 5-27A, B
GND 5-26A, B
12V 5-25A, B
GND 5-24A, B
REC SAFE 15V 5-23A, B
REC SAFE GND 5-22A, B
0 7 FM AUDIO-2/2
6
5
4
3
2
1
A
B
C
4-52
4-52
E
F
G
H

– WIRING TABLE –

5-17B	←	30	CN3-3
5-18B	←	12	CN1-19A
5-19B	←	12	CN1-20A
5-20B	←	22	CN1-6
5-21B	←	12	CN1-21A
5-22	←	17	CN2-4
5-23	←	17	CN2-3
5-24	←	17	CN2-2
5-25	←	17	CN2-1
5-26	←	17	CN2-2
5-27	←	17	CN2-1
5-28	←	12	CN1-22A
5-29	→	29	CN19-3
5-30	→	29	CN19-4
5-31	→	29	CN19-2
5-32	→	29	CN19-1

0 7



TP1
1.4 MHz
240 mVp-p
[REC]

TP2
1.8 MHz
400 mVp-p
[REC]

TP4
2.5 Vp-p
[REC]

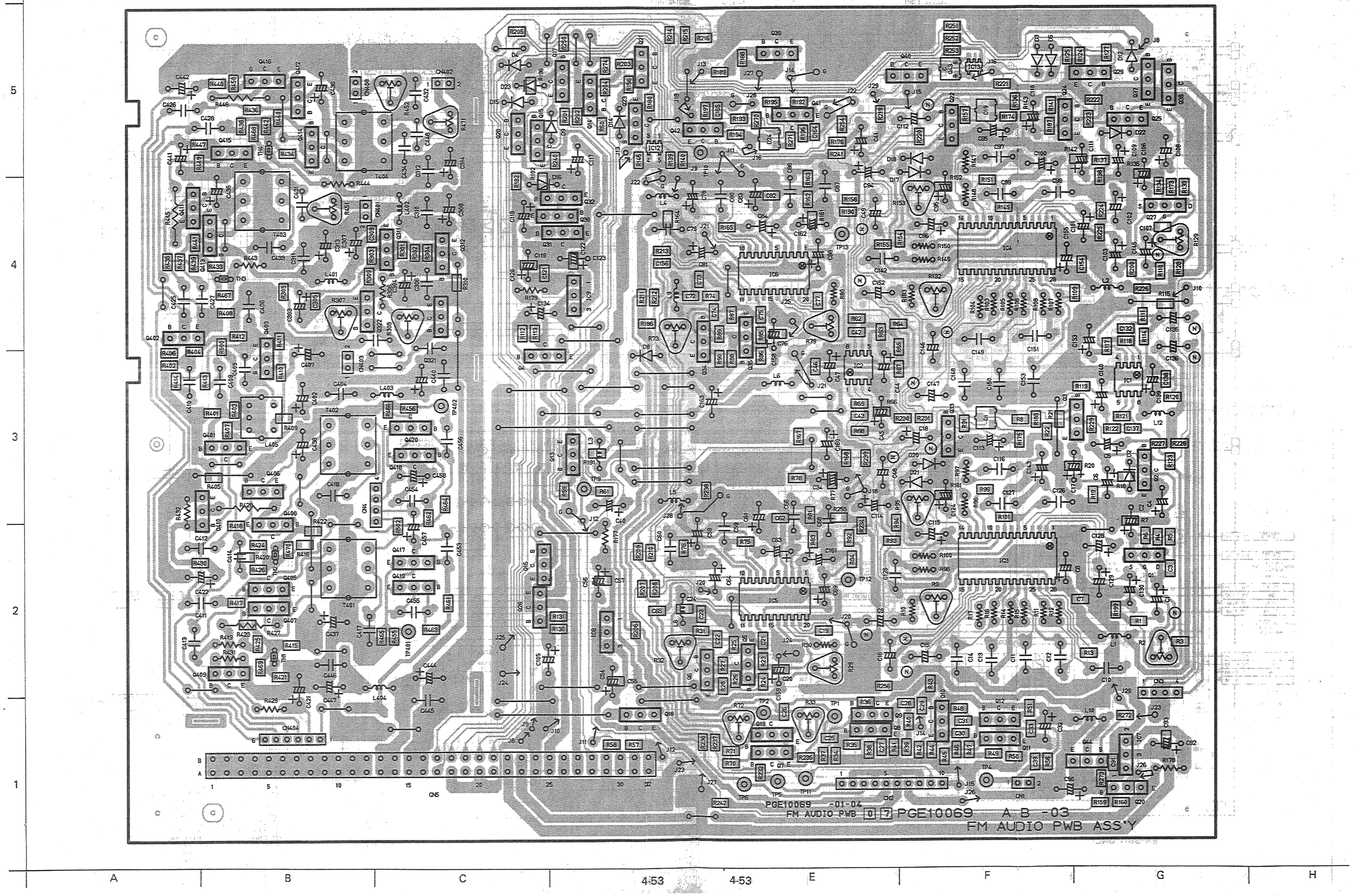
TP12 (TP13)
1 kHz/260 mVp-p
[REC]

TP6 1.8 MHz
TP5 1.4 MHz
300 mVp-p
[PB]

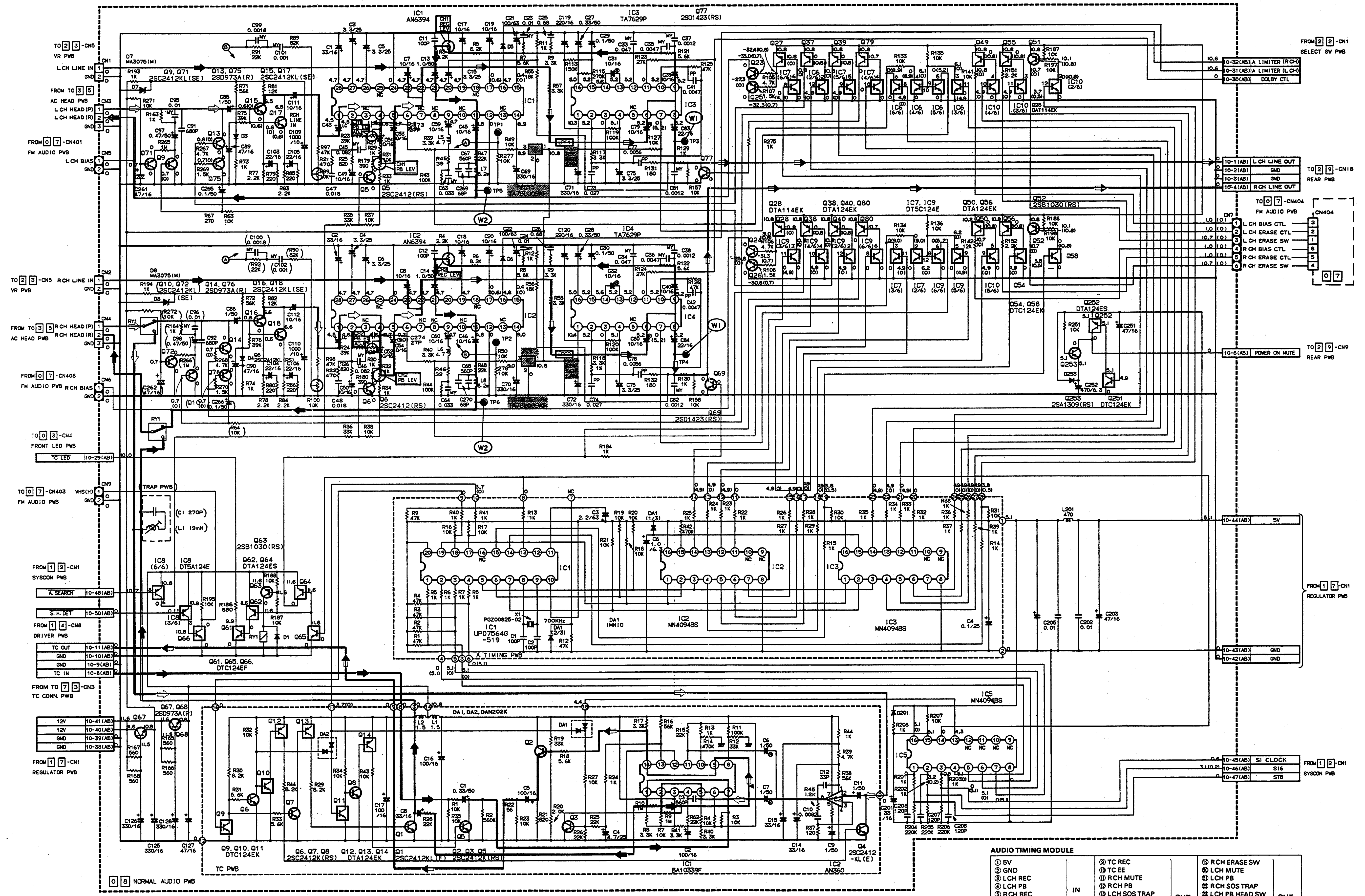
TP9 (TP10)
1.2 Vp-p
[PB/REC]

TP11
3.5 Vp-p/V-rate
[PB]

4.48 FM AUDIO CIRCUIT BOARD


FM AUDIO PWB ASS'Y
PGE10069 A B -03
FM AUDIO PWB 0 7 PGE10069
PGE10069 -01-04
CN5
CN404
CN1
CN2
CN3
IC1
IC2
IC3
IC4
IC5
IC6
T401
T402
T403
T404
6
5
4
3
2
1
A
B
C
E
F
G
H

4.49 NORMAL AUDIO SCHEMATIC DIAGRAM


IC1 AN6394
IC3 TA7629P
Q77 2SD1423(RS)
IC2 AN6394
IC4 TA7629P
Q69 2SD1423(RS)
TO 2 3 -CN5 VR PWB
L CH LINE IN
GND
FROM TO 3 5 AC HEAD PWB
L CH HEAD (P)
L CH HEAD (R)
FROM 0 7 -CN401 FM AUDIO PWB
L CH BIAS
TO 2 3 -CN5 R CH LINE IN VR PWB
FROM TO 3 5 R CH HEAD (P) R CH HEAD (R) AC HEAD PWB
FROM 0 7 -CN408 FM AUDIO PWB R CH BIAS
TO 0 3 -CN4 FRONT LED PWB
TC LED
TO 0 7 -CN403 FM AUDIO PWB VHS(H)
(TRAP PWB)
(C1 270P)
(L1 19mH)
FROM 1 2 -CN1 SYSCON PWB
A. SEARCH
S. H. DET
FROM 1 4 -CN8 DRIVER PWB
TC OUT
GND
TC IN
FROM TO 7 3 -CN3 TC CONN. PWB
12V
FROM 1 7 -CN1 REGULATOR PWB
Q9, Q71 2SC2412KL(SE)
Q13, Q75 2SD973A(R)
Q15, Q17 2SC2412KL(SE)
Q10, Q72 2SC2412KL
Q14, Q76 2SD973A(R)
Q16, Q18 2SC2412KL(SE)
D7 MA3075(M)
D8 MA3075(M)
Q5 2SC2412(RS)
Q6 2SC2412(RS)
PB LEV
REC LEV
TP1
TP2
TP3
TP4
TP5
TP6
W1
W2
Q28 DTA114EK
Q38, Q40, Q80 DTA124EK
IC7, IC9 DT5C124E
Q50, Q56 DTA124EK
Q52 2SB1030(RS)
Q54, Q58 DTC124EK
Q252 DTA124ES
Q253 2SA1309(RS)
Q251 DTC124EK
SELECT SW PWB
FROM 2 2 -CN1
10-32(AB) A LIMITER (RCH)
10-31(AB) A LIMITER (L CH)
10-30(AB) DOLBY CTL
10-1(AB) L CH LINE OUT
10-2(AB) GND
10-3(AB) GND
10-4(AB) R CH LINE OUT
TO 2 9 -CN18 REAR PWB
TO 0 7 -CN404 FM AUDIO PWB
CN404
L CH BIAS CTL
L CH ERASE CTL
L CH ERASE SW
R CH BIAS CTL
R CH ERASE CTL
R CH ERASE SW
10-6(AB) POWER ON MUTE
TO 2 9 -CN9 REAR PWB
10-44(AB) 5V
FROM 1 7 -CN1 REGULATOR PWB
10-43(AB) GND
10-42(AB) GND
10-45(AB) S1 CLOCK
10-46(AB) S16
10-47(AB) STB
FROM 1 2 -CN1 SYSCON PWB
Q63 2SB1030(RS)
IC8 DT5A124E
Q62, Q64 DTA124ES
Q61, Q65, Q66, DTC124EF
Q67, Q68 2SD973A(R)
IC1 UPD7564G -519
PGZ00825-02
700KHz
DA1 1MN10
IC2 MN4094BS
IC3 MN4094BS
A. TIMING PWB
IC5 MN4094BS
DA1, DA2, DAN202K
Q9, Q10, Q11 DTC124EK
Q6, Q7, Q8 2SC2412K(RS)
Q12, Q13, Q14 DTA124EK
Q1 2SC2412KL(E)
Q2, Q3, Q5 2SC2412K(RS)
IC1 BA10339F
IC2 AN360
Q4 2SC2412 -KL(E)
TC PWB
0 8 NORMAL AUDIO PWB

AUDIO TIMING MODULE

① 5V
② GND
③ LCH REC
④ LCH PB
⑤ RCH REC
⑥ RCH PB
⑦ NC
⑧ TC/AUD LCH

} IN

⑨ TC REC
⑩ TC EE
⑪ RCH MUTE
⑫ RCH PB
⑬ LCH SOS TRAP
⑭ RCH PB HEAD SW
⑮ RCH REC HEAD SW
⑯ RCH BIAS CTL
⑰ RCH REC CTL
⑱ RCH ERASE CTL

} OUT

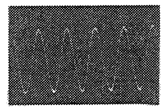
⑲ RCH ERASE SW
⑳ LCH MUTE
㉑ LCH PB
㉒ RCH SOS TRAP
㉓ LCH PB HEAD SW
㉔ LCH REC HEAD SW
㉕ LCH BIAS
㉖ LCH REC
㉗ LCH ERASE CTL
㉘ LCH ERASE SW

} OUT

( ): BR-S811 ONLY

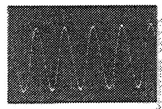
4.50 NORMAL AUDIO CIRCUIT BOARD

W1

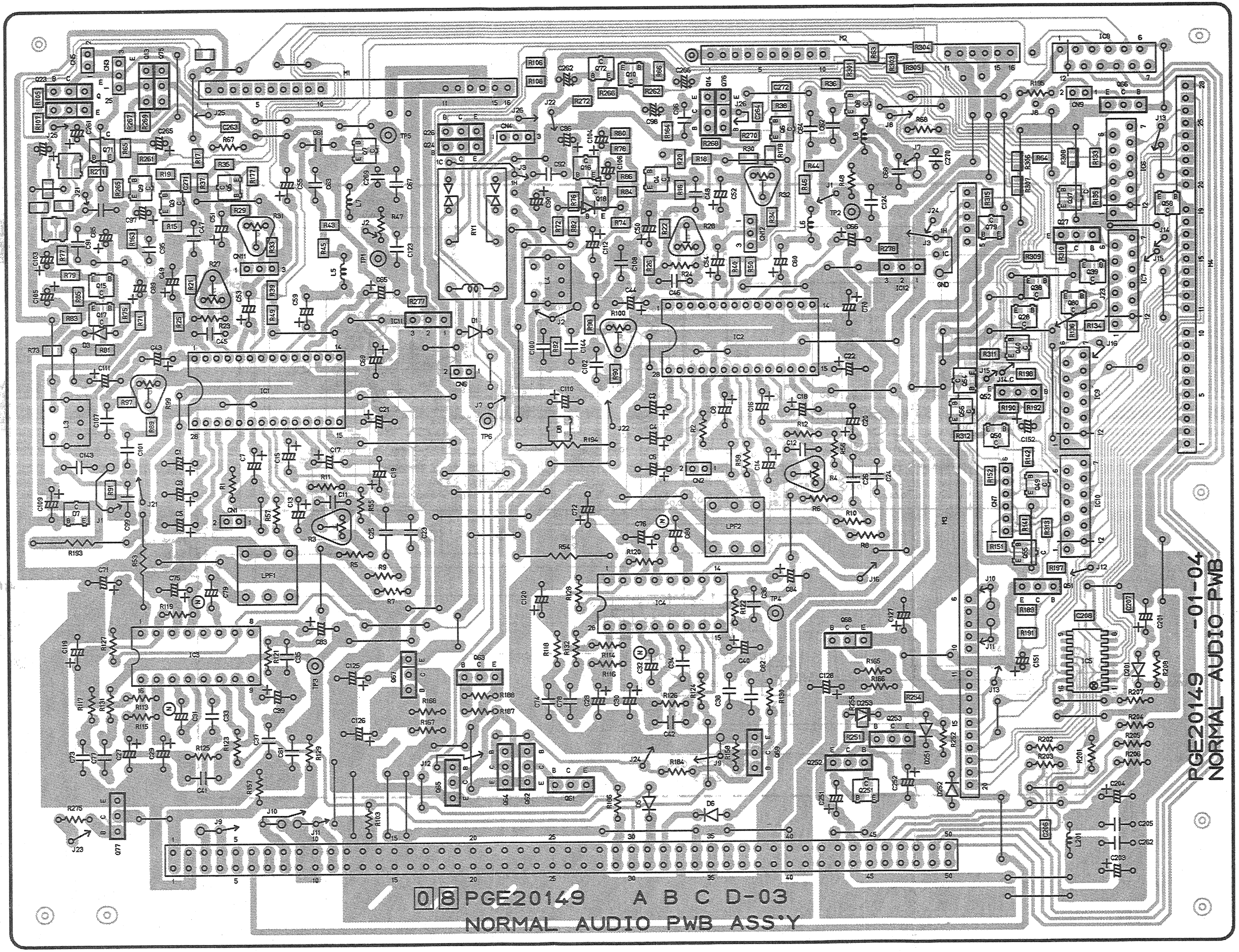


TP3 (TP4)
PB : 0.94 Vp-p
REC : 1.2 Vp-p

W2



TP5 (TP6)
70 kHz/80 Vp-p
[REC]


PGE20149 -01-04
NORMAL AUDIO PWB
08 PGE20149 A B C D-03
NORMAL AUDIO PWB ASS'Y
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
LPF1
LPF2
RY1
TP1
TP2
TP3
TP4
TP5
TP6
GND

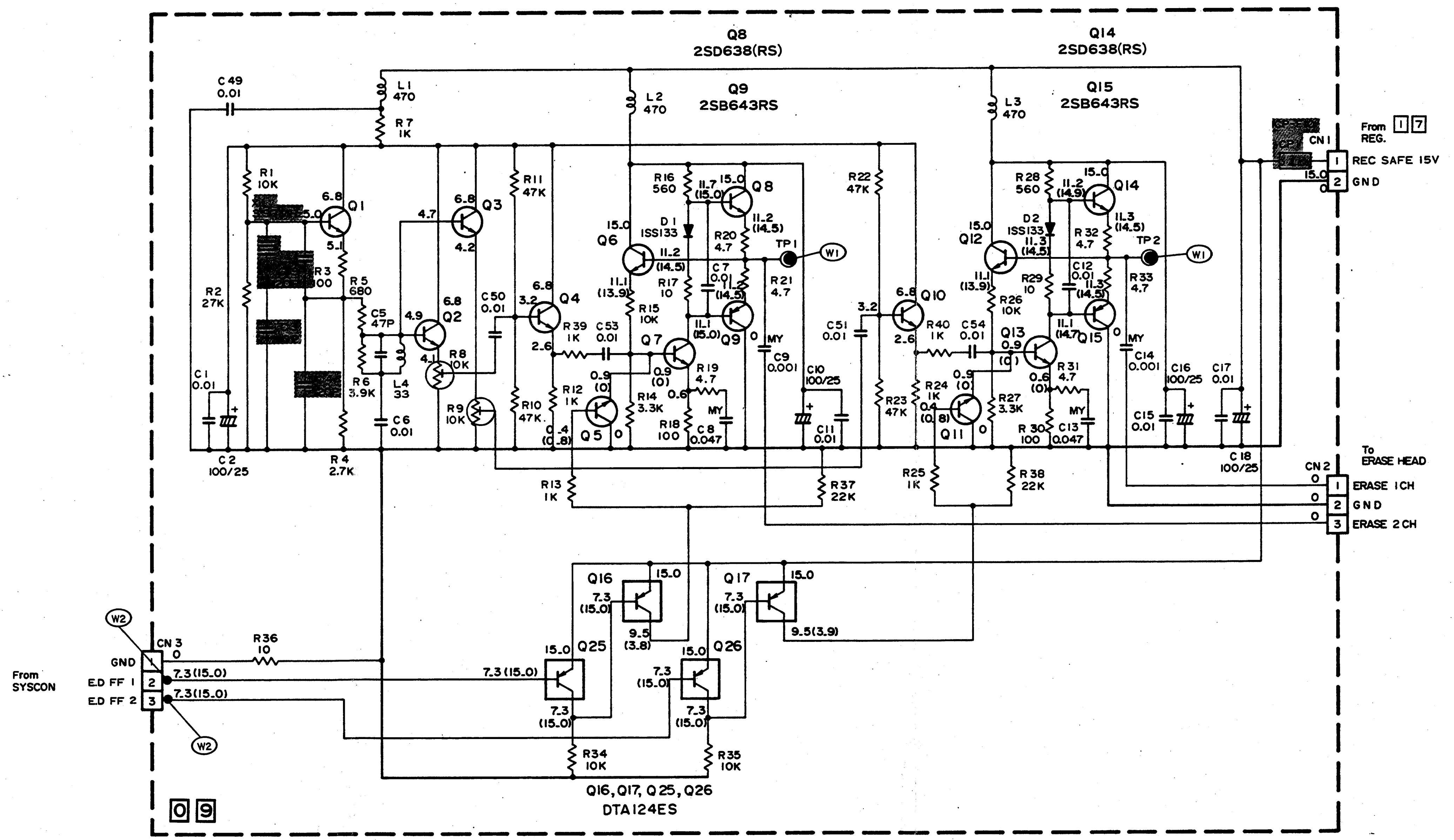
— WIRING TABLE —

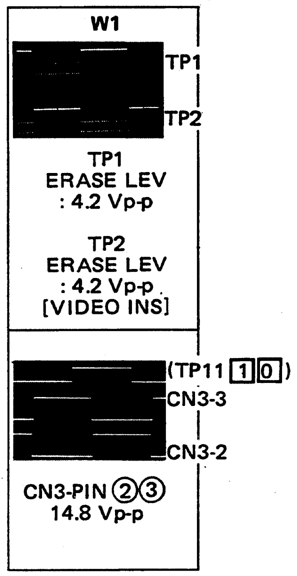
10-1	→	29	CN18-1
10-2	→	29	CN18-2
10-3	→	29	CN18-3
10-4	→	29	CN18-4
10-6	→	29	CN21-4
10-8	←	73	CN3-1
10-9	←	73	CN3-2
10-10	→	73	CN3-3
10-11	→	73	CN3-4
10-29	→	30	CN4-4
10-30	←	22	CN1-4
10-31	←	22	CN1-2
10-32	←	22	CN1-2
10-38	←	17	CN1-1
10-39	←	17	CN1-1
10-40	←	17	CN1-2
10-41	←	17	CN1-2
10-44	←	17	CN1-4
10-45	←	12	CN1-37
10-46	←	12	CN1-18A
10-47	←	12	CN1-39
10-48	←	12	CN1-17A
10-50	←	14	CN9-1

08

4.51 VIDEO ERASE & FM AUDIO PREAMP SCHEMATIC DIAGRAM

–VIDEO ERASE SECTION (BR-S811E only) –


Q8
2SD638(RS)
Q9
2SB643RS
Q14
2SD638(RS)
Q15
2SB643RS
C49 0.01
L1 470
R7 1K
L2 470
L3 470
R1 10K
Q1
R2 27K
R3
R5 680
C5 47P
Q2
Q3
R6 3.9K
L4 33
C6 0.01
R4 2.7K
C1 0.01
C2 100/25
R8 10K
R9 10K
R10 47K
R11 47K
C50 0.01
Q4
R39 1K
C53 0.01
R12 1K
Q5
R13 1K
R16 560
D1 ISS133
Q6
R20 4.7
R17 10
R15 10K
C7 0.01
Q7
R14 3.3K
R18 100
R19 4.7
C8 0.047
MY
TP1
W1
R21 4.7
C9 0.001
C10 100/25
C11 0.01
C51 0.01
R22 47K
R23 47K
R37 22K
Q10
R40 1K
C54 0.01
R24 1K
Q11
R25 1K
R38 22K
R28 560
D2 ISS133
Q12
R32 4.7
C12 0.01
R29 10
R26 10K
Q13
R27 3.3K
R30 100
R31 4.7
C13 0.047
TP2
R33 4.7
C14 0.001
C16 100/25
C17 0.01
C15 0.01
C18 100/25
From 17 REG.
CN1
1 REC SAFE 15V
2 GND
To ERASE HEAD
CN2
1 ERASE 1CH
2 GND
3 ERASE 2CH
Q16
Q17
Q25
Q26
R34 10K
R35 10K
Q16, Q17, Q25, Q26
DTA124ES
From SYSCON
CN3
GND 1
E.D FF 1 2
E.D FF 2 3
R36 10
7.3(15.0)
W2
09



TP1
ERASE LEV
: 4.2 Vp-p

TP2
ERASE LEV
: 4.2 Vp-p
[VIDEO INS]

CN3-PIN ②③
14.8 Vp-p

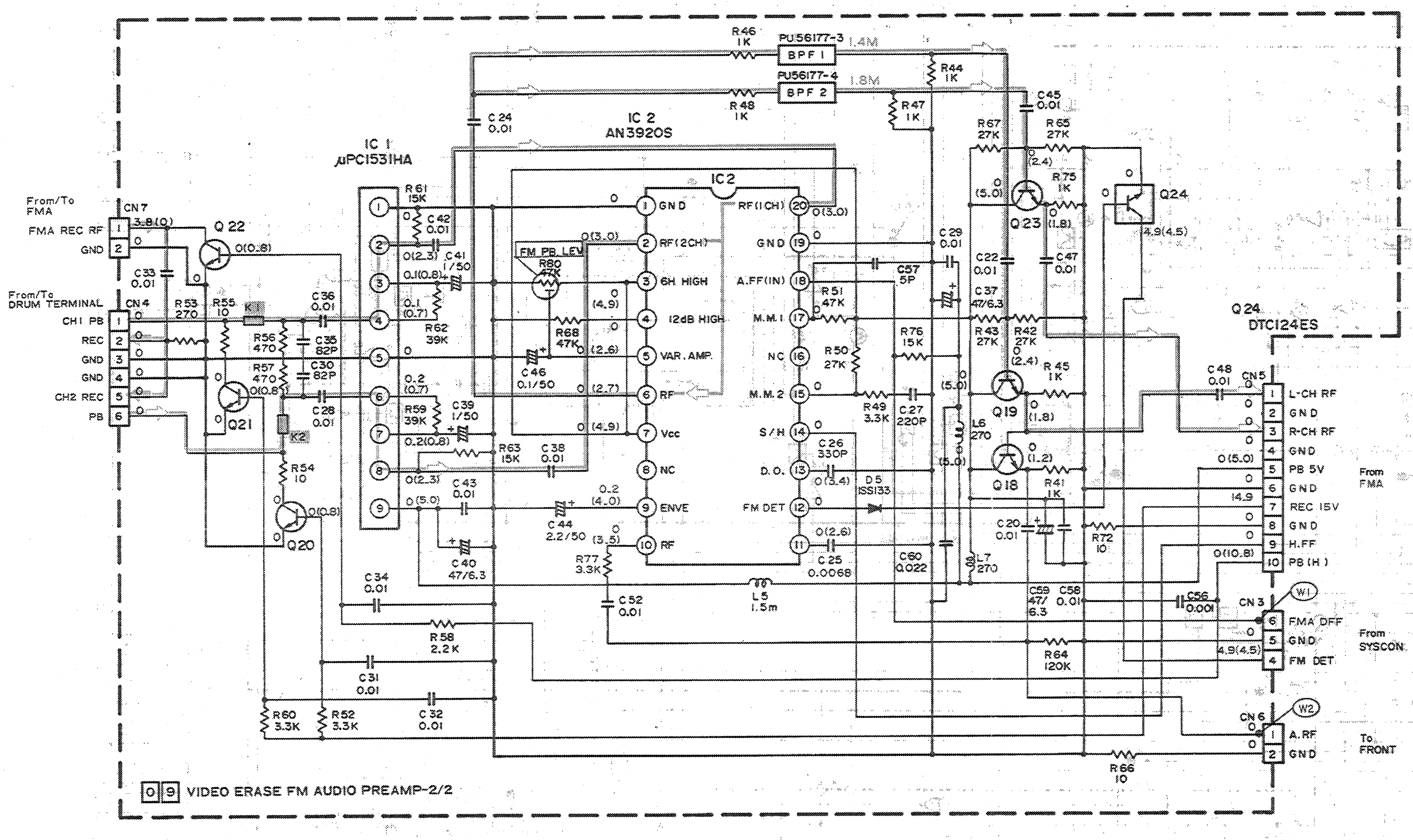
– WIRING TABLE –

CN3	
2	12 CN1-26A
3	12 CN1-27A

09

4.52 V. ERASE & FMA PREAMP CIRCUIT BOARD

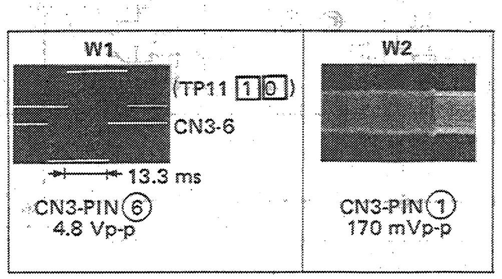
— FM AUDIO PRE AMP SECTION —

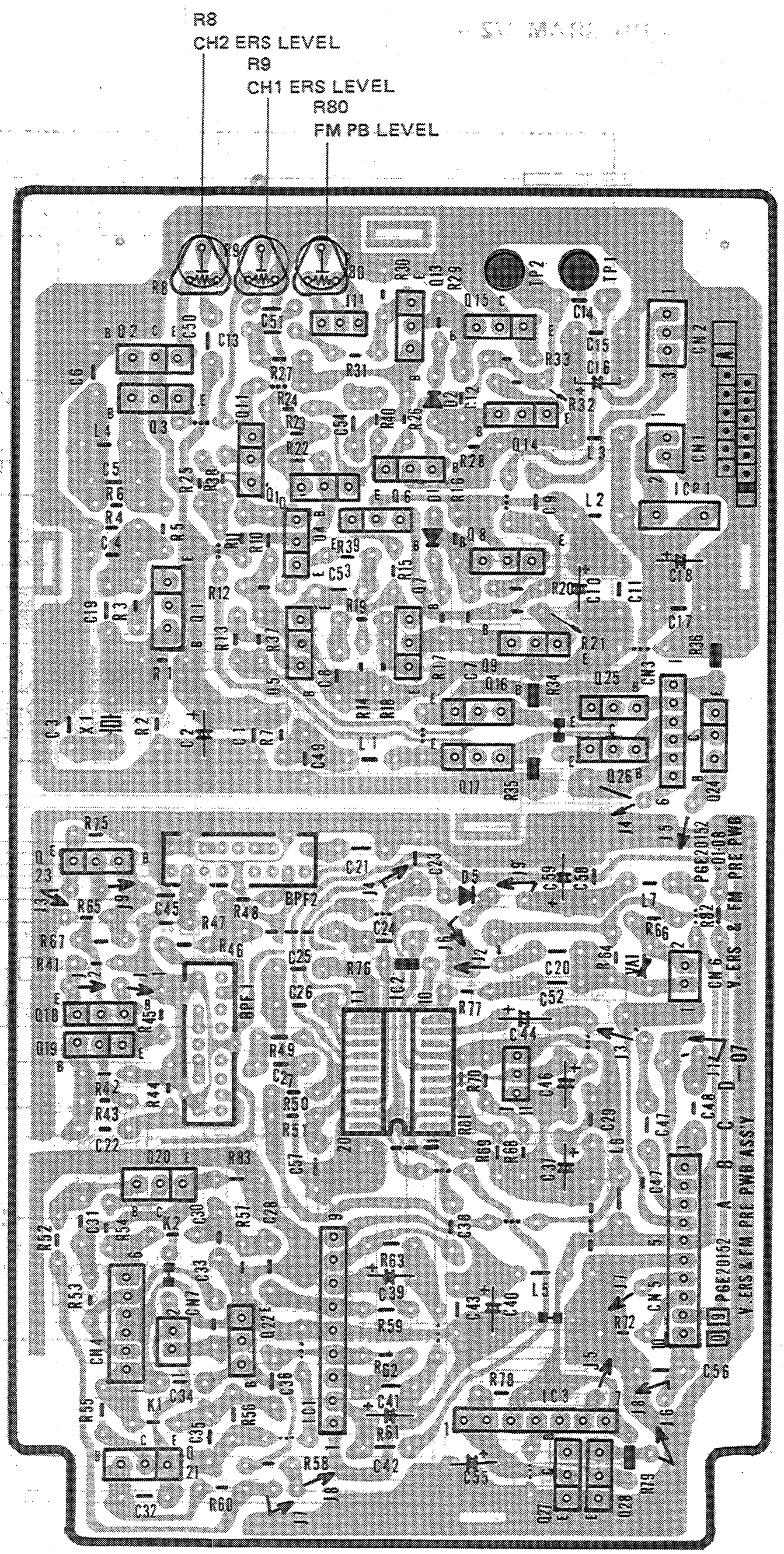

From/To FMA
FMA REC RF
GND
CN7
From/To DRUM TERMINAL
CN4
CH1 PB
REC
GND
GND
CH2 REC
PB
Q22
Q21
Q20
IC 1
μPC1531HA
IC 2
AN3920S
IC2
R46 1K
PU56177-3 BPF 1
PU56177-4 BPF 2
R48 1K
R44 1K
R47 1K
C 24 0.01
C45 0.01
R67 27K
R65 27K
R75 1K
Q23
Q24
Q24 DTC124ES
R61 15K
C42 0.01
C41 1/50
FM PB LEV
R80 47K
R68 47K
C46 0.1/50
R62 39K
R59 39K
C39 1/50
R63 15K
C38 0.01
C43 0.01
C44 2.2/50
C40 47/6.3
R77 3.3K
C52 0.01
L5 1.5m
C34 0.01
R58 2.2K
C31 0.01
C32 0.01
R60 3.3K
R52 3.3K
R53 270
R55 10
R56 470
R57 470
C33 0.01
C36 0.01
C35 82P
C30 82P
C28 0.01
R54 10
K1
K2
GND
RF(2CH)
6H HIGH
12dB HIGH
VAR. AMP.
RF
Vcc
NC
ENVE
RF(1CH)
A.FF(IN)
M.M.1
NC
M.M.2
S/H
D.O.
FM DET
C29 0.01
C57 5P
R51 47K
R76 15K
R50 27K
R49 3.3K
C27 220P
C26 330P
D5 1SS133
C25 0.0068
C60 0.022
L6 270
L7 270
C22 0.01
C37 47/6.3
R43 27K
R42 27K
C47 0.01
R45 1K
Q19
Q18
R41 1K
C20 0.01
R72 10
C59 47/6.3
C58 0.01
C56 0.001
R64 120K
R66 10
C48 0.01
CN5
L-CH RF
GND
R-CH RF
GND
PB 5V
GND
REC 15V
GND
H.FF
PB (H)
From FMA
CN3
FMA OFF
GND
FM DET
From SYSCON
CN6
A.RF
GND
To FRONT
W1
W2
09 VIDEO ERASE FM AUDIO PREAMP-2/2

— WIRING TABLE —

CN3		
4	→	12 CN1-24A
6	←	12 CN1-25A

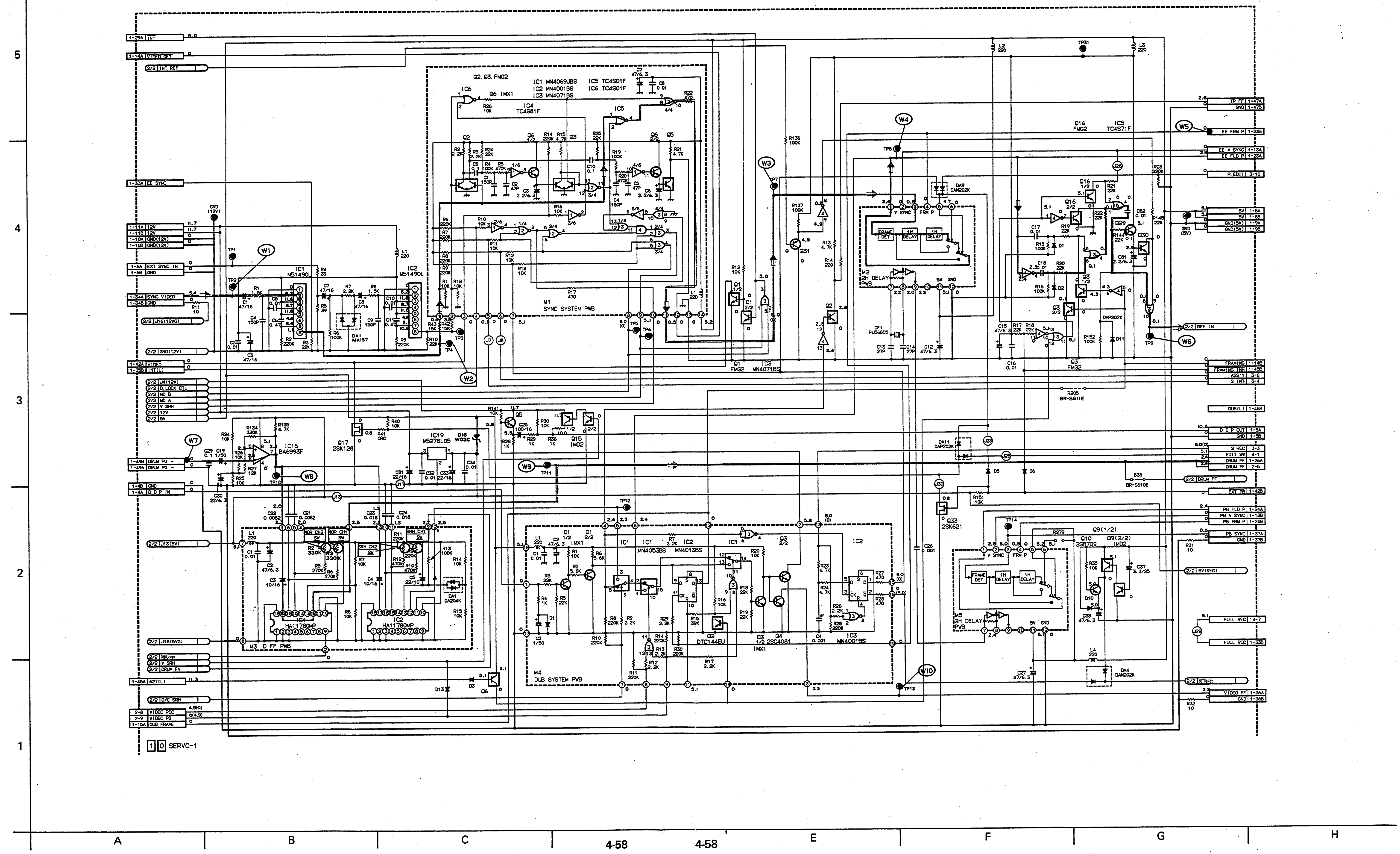
09




R8
CH2 ERS LEVEL
R9
CH1 ERS LEVEL
R80
FM PB LEVEL
TP2
TP1
CN2
CN1
IC1
CN3
CN4
CN5
CN6
CN7
IC2
IC3
BPF1
BPF2
09 PGE20152 V.ERS & FM PRE PWB
PGE20152 V.ERS & FM PRE PWB ASS'Y

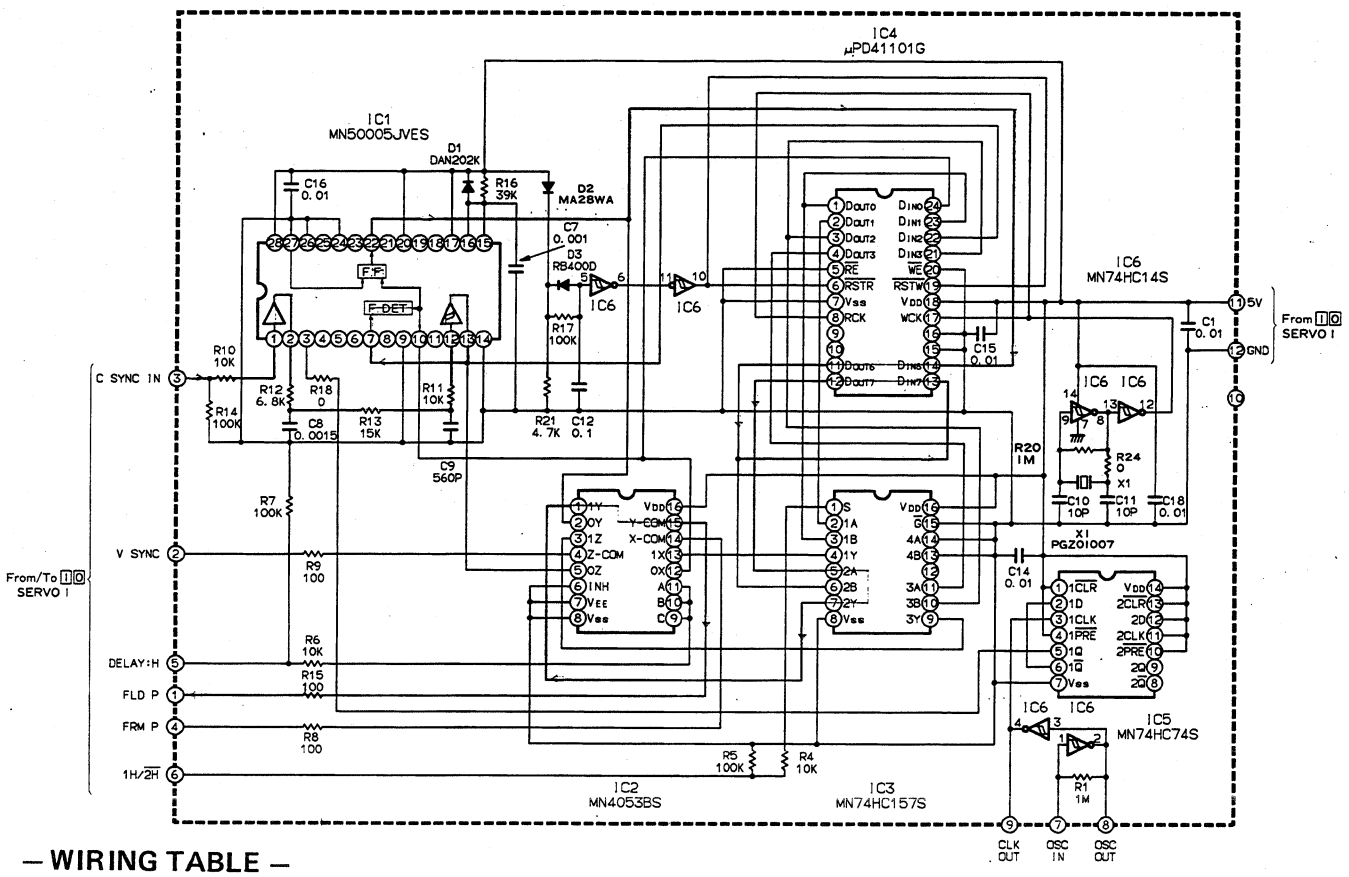
4.53 SERVO-1 SCHEMATIC DIAGRAM

– DIAGRAM 1/2 –


6
5
4
3
2
1
A
B
C
D
E
F
G
H
1-29A INT
1-14A VIDEO DET
2/2 INT REF
1-33A EE SYNC
1-11A 12V
1-11B 12V
1-10A GND(12V)
1-10B GND(12V)
1-6A EXT SYNC IN
1-6B GND
1-34A SYNC VIDEO
1-34B GND
2/2 J16(12VG)
2/2 GND(12V)
1-42A VIDEO
1-35B INT(L)
2/2 J4(12V)
2/2 D.LOCK CTL
2/2 MD B
2/2 MD A
2/2 V SRH
2/2 12V
2/2 5V
1-49B DRUM PG +
1-49A DRUM PG −
1-4B GND
1-4A D D P IN
2/2 J13(5V)
2/2 J18(5VG)
2/2 SP/EP
2/2 V SRH
2/2 DRUM FV
1-45A 627(L)
2/2 D/C SRH
2-8 VIDEO REC
2-9 VIDEO PB
1-15A DUB FRAME
SERVO-1
IC1 M51490L
IC2 M51490L
M1 SYNC SYSTEM PWB
Q2, Q3, FMG2
IC1 MN4069UBS
IC2 MN4001BS
IC3 MN4071BS
IC4 TC4S81F
IC5 TC4S01F
IC6 TC4S01F
Q6 IMX1
DA1 MA157
IC16 BA6993F
IC19 M5278L05
D16 W03C
Q17 2SK126
Q5
Q15 IMD2
IC1 HA11780MP
IC2 HA11780MP
DA1 DA204K
M3 D FF PWB
IC1 MN4053BS
IC2 MN4013BS
IC3 MN4001BS
Q2 DTC144EU
Q3 Q4 1/2 2SC4081 IMX1
M4 DUB SYSTEM PWB
Q1 FMG2
IC3 MN4071BS
Q31
M2 2H DELAY PWB
FRAME DET
1H DELAY
1H DELAY
V SYNC
FRM P
DA9 DAN202K
CF1 PU56805
Q16 FMG2
IC5 TC4S71F
Q29
Q30
DAP202K
Q3 FMG2
DA11 DAP202K
Q33 2SK621
M5 2H DELAY PWB
Q10 2SB709
Q9(2/2) IMD2
DA4 DAN202K
R205 BR-S611E
B36 BR-S610E
W1
W2
W3
W4
W5
W6
W7
W8
W9
W10
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP31
L2 220
L3 220
TP FF 1-47A
GND 1-47B
EE FRM P 1-23B
EE V SYNC 1-13A
EE FLD P 1-23A
P. EDIT 3-10
5V 1-8A
5V 1-8B
GND(5V) 1-9A
GND(5V) 1-9B
2/2 REF IN
FRAMING 1-14B
FRAMING INH 1-45B
ASS'Y 3-6
S INT 3-4
DUB(L) 1-46B
D D P OUT 1-5A
GND 1-5B
S REC 3-3
EDIT SW 4-1
DRUM FF 1-26A
DRUM FF 2-5
2/2 DRUM FF
EXT PB 1-42B
PB FLD P 1-24A
PB V SYNC 1-13B
PB FRM P 1-24B
PB SYNC 1-37A
GND 1-37B
2/2 5V(REG)
FULL REC 4-7
FULL REC 1-33B
2/2 S REC
VIDEO FF 1-36A
GND 1-36B

– 2H DELAY PWB –

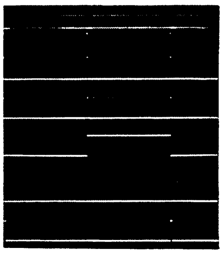
Note: This diagram shows M2 and M5 circuits on the SERVO-1 board.


IC4
μPD41101G
IC1
MN50005JVES
D1
DAN202K
R16
39K
D2
MA28WA
C16
0.01
C7
0.001
D3
RB400D
F.F
F-DET
IC6
IC6
IC6
MN74HC14S
DOUT0
DOUT1
DOUT2
DOUT3
RE
RSTR
VSS
RCK
DOUT6
DOUT7
DIN0
DIN1
DIN2
DIN3
WE
RSTW
VDD
WCK
DIN6
DIN7
C15
0.01
5V
GND
From IO
SERVO I
C1
0.01
C SYNC IN
R10
10K
R14
100K
R12
6.8K
R18
0
C8
0.0015
R13
15K
R11
10K
C9
560P
R17
100K
R21
4.7K
C12
0.1
R20
1M
R24
0
X1
C10
10P
C11
10P
C18
0.01
X1
PGZ01007
R7
100K
V SYNC
R9
100
From/To IO
SERVO I
DELAY:H
R6
10K
R15
100
FLD P
FRM P
R8
100
1H/2H
1Y
0Y
1Z
Z-COM
0Z
INH
VEE
VSS
VDD
Y-COM
X-COM
1X
0X
A
B
C
S
1A
1B
1Y
2A
2B
2Y
VSS
VDD
G
4A
4B
3A
3B
3Y
C14
0.01
1CLR
1D
1CLK
1PRE
1Q
1Q
VSS
VDD
2CLR
2D
2CLK
2PRE
2Q
2Q
IC6
IC6
IC5
MN74HC74S
R1
1M
R5
100K
R4
10K
IC2
MN4053BS
IC3
MN74HC157S
CLK OUT
OSC IN
OSC OUT

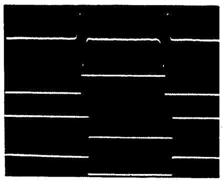
– WIRING TABLE –

1-4A	←	71	CN7-1
1-4B	←	71	CN7-2
1-5A	→	71	CN8-1
1-5B	→	71	CN8-2
1-6A	←	71	CN8-3
1-6B	←	71	CN8-4
1-8	←	17	CN8-1
1-9	←	17	CN8-2
1-10	←	17	CN8-3
1-11	←	17	CN8-4
1-14A	→	36	CN1-13B
1-14B	←	36	CN1-13A
1-15A	→	36	CN1-12B
1-23A	→	36	CN1-32B
1-23B	→	36	CN1-32A
1-24A	→	36	CN1-31B
1-24B	→	36	CN1-31A
1-26A	→	36	CN1-29B
1-29A	→	36	CN1-27A
1-33A	→	36	CN1-10B
1-33B	→	36	CN1-10A
1-34A	←	01	CN1-20
1-34B	←	01	CN1-19
1-35B	→	02	CN1-17A
1-36A	→	03	CN1-19B
1-36B	→	03	CN1-20
1-37A	←	03	CN1-17
1-37B	←	03	CN1-18
1-42A	←	22	CN3-3
1-42B	←	22	CN3-4
1-45A	←	30	CN3-1
1-45B	←	36	CN1-8A
		30	CN3-2
1-47A	→	21	CN2-3
1-47B	→	21	CN2-4
1-49A	←	14	CN23-4
1-49B	←	14	CN23-3
2-X	—	12	CN2-X
3-X	—	12	CN3-X
4-X	—	12	CN4-X

IO



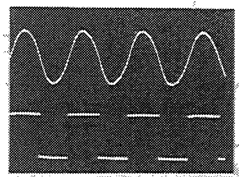
W1	TP2	0.9 Vp-p
W2	TP4	10.4 Vp-p
W3	TP7	4.9 Vp-p
W4	TP8	4.8 Vp-p
W5	CN1-23B	4.8 Vp-p
W6	TP9	4.9 Vp-p



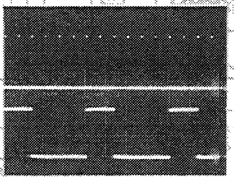
W7	CN1-49B	0.52 Vp-p
W8	TP10	4.9 Vp-p, 25 Hz
W9	TP11	4.9 Vp-p, 25 Hz
W10	TP13	9.4 Vp-p, 25 Hz

— WIRING TABLE —

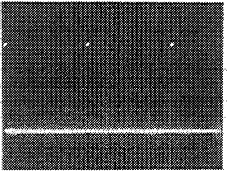
1-7A	→	73	CN4-2
1-7B	←	71	CN8-5
1-15B	←	36	CN1-12A
1-17A	←	11	CN1-24A
1-18A	←	11	CN1-23B
1-18B	←	11	CN1-13B
1-19A	→	11	CN1-25B
	↘	20	CN3-6
	↘	28	CN5-2
1-19B	→	11	CN1-21A
1-20B	←	11	CN1-23A
1-21A	←	11	CN1-22B
1-21B	←	11	CN1-22A
1-25A	→	36	CN1-30B
1-25B	←	36	CN1-30A
1-26B	→	36	CN1-29A
	↘	28	CN5-1
1-27A	→	36	CN1-28B
1-27B	→	36	CN1-28A
1-30B	→	30	CN5-2
1-31A	→		CAP MOTOR
1-31B	→		CAP MOTOR
1-32A	→	36	CN1-11B
1-32B	→	36	CN1-11A
1-35A	→	02	CN2-17B
1-38A	→	03	CN1-43
	↘	01	CN1-8
1-39A	↔	35	A/C HEAD
1-39B	→	35	A/C HEAD
1-40A	→	35	A/C HEAD
1-43A	→	23	CN2-1
1-43B	←	23	CN2-2
1-46A	←	22	CN3-5
1-48A	←	14	CN23-1
1-48B	←	14	CN23-2
1-50A	→	14	CN23-5
1-50B	→	14	CN23-6
2-X	—	12	CN2-X
3-X	—	12	CN3-X
4-X	—	12	CN4-X

W101  TP21 1.3 Vp-p, 700 Hz

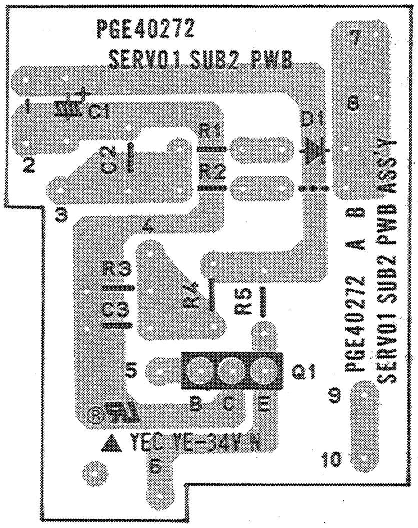
W102 TP20 4.1 Vp-p, 700 Hz

W103  TP29 5.0 Vp-p, 3030 Hz

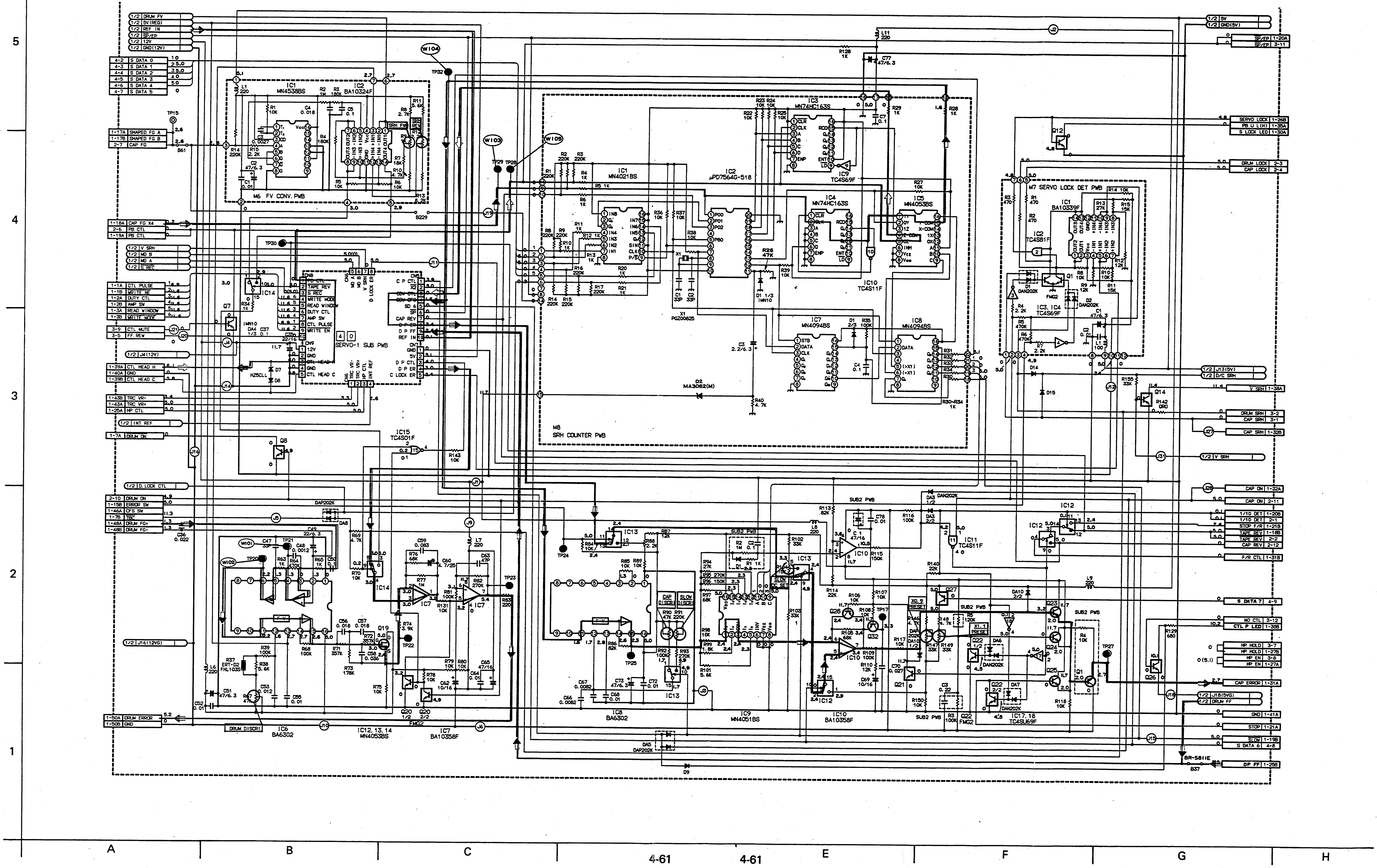
W104 TP32 4.5 Vp-p, 50 Hz

W105  TP28 4.3 Vp-p/25 Hz

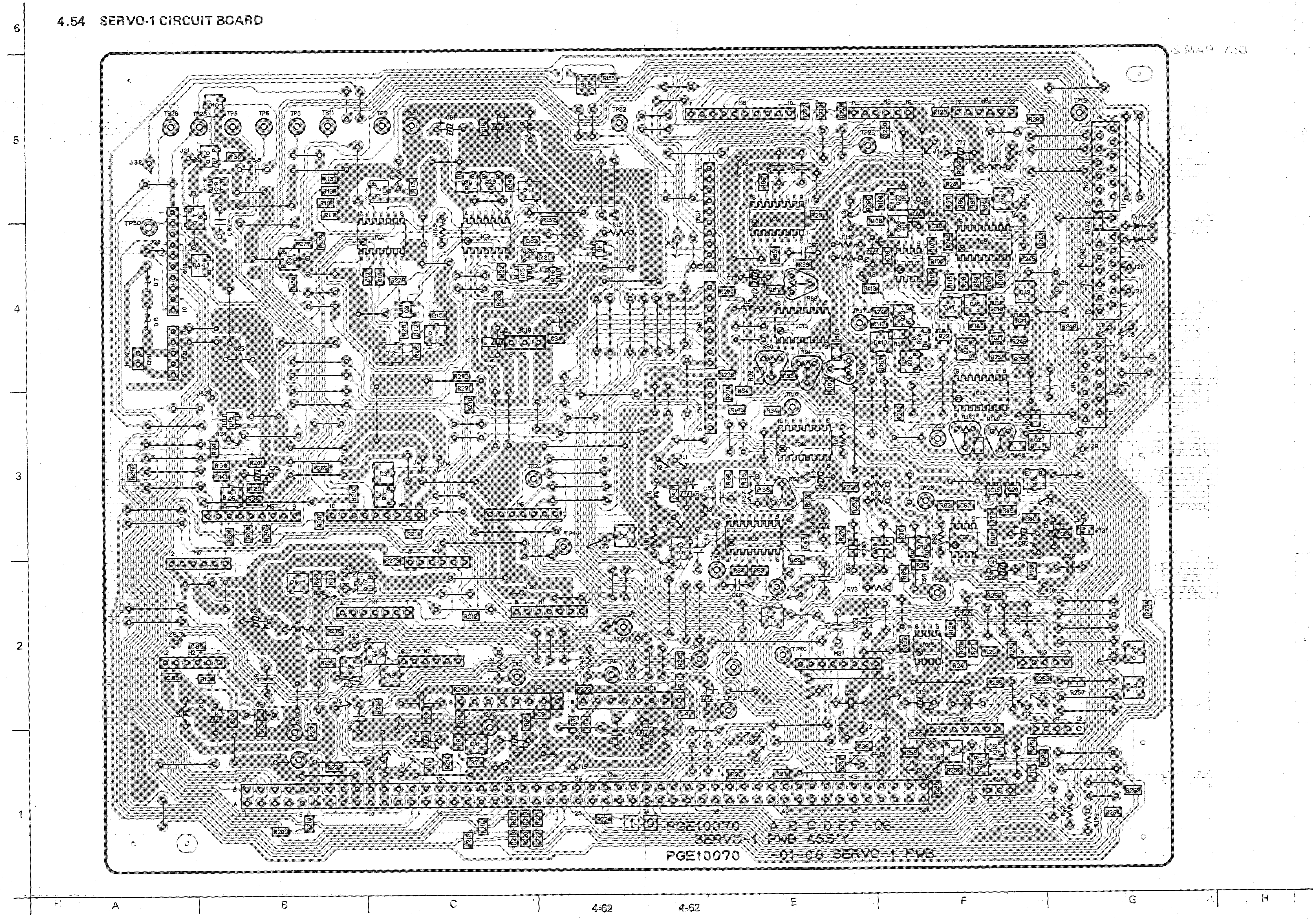
— SERVO 1 SUB 2 —


PGE40272
SERVO1 SUB2 PWB
C1
C2
R1
R2
D1
R3
C3
R4
R5
Q1
B C E
1
2
3
4
5
6
7
8
9
10
PGE40272 A B
SERVO1 SUB2 PWB ASS'Y
YEC YE-34V N

– DIAGRAM 2/2 –

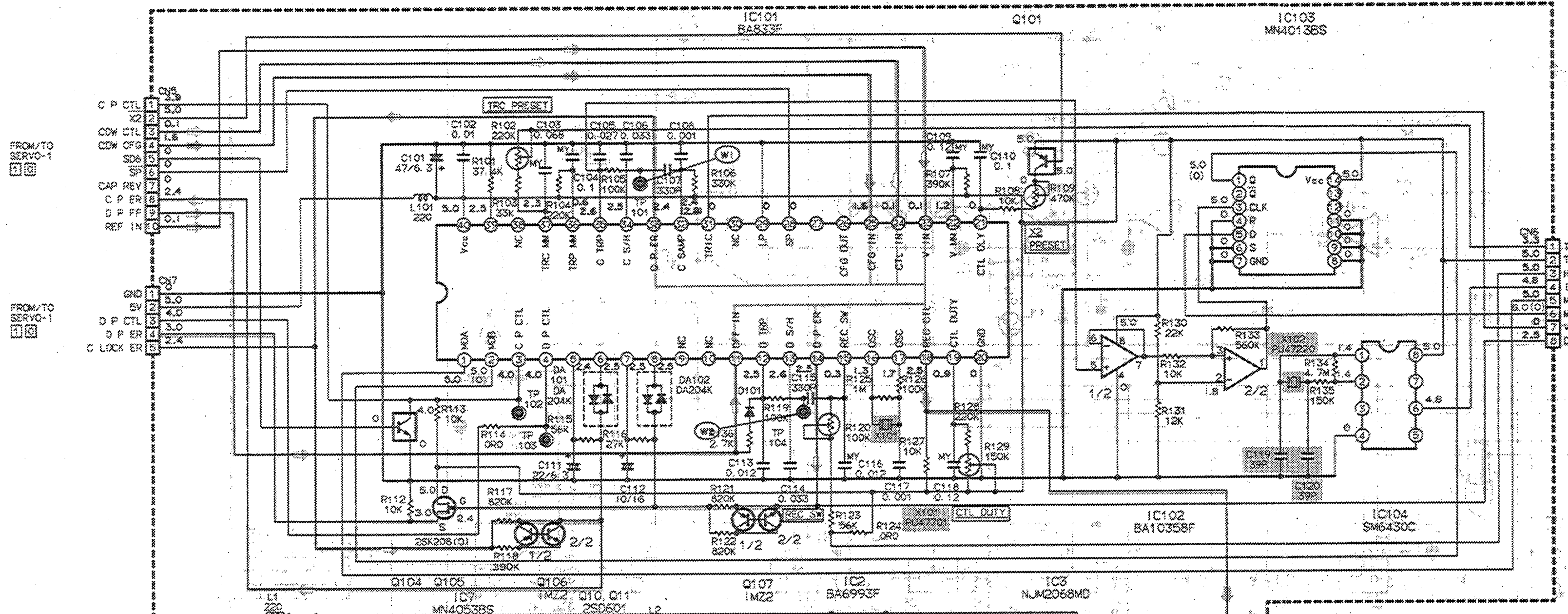
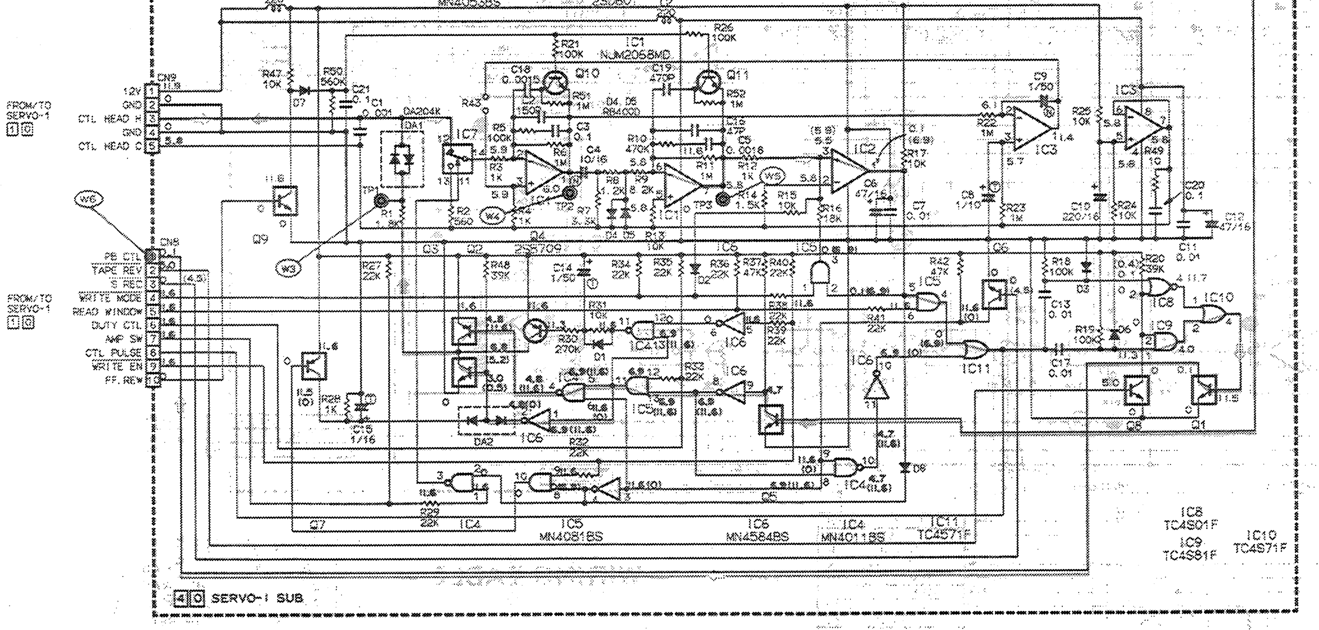

M6 FV CONV. PWB
IC1 MN4538BS
IC2 BA10324F
SERVO-1 SUB PWB
IC14
M8 SRH COUNTER PWB
IC1 MN4021BS
IC2 μPD75640-518
IC3 MN74HC163S
IC4 MN74HC163S
IC5 MN4053BS
IC7 MN4094BS
IC8 MN4094BS
IC9 TC4S69F
IC10 TC4S11F
X1 PGZ0065
D2 MA3062(M)
M7 SERVO LOCK DET PWB
IC1 BA10339F
IC2 TC4S81F
IC3, IC4 TC4S69F
IC15 TC4S01F
IC6 BA6302
IC12, 13, 14 MN4053BS
IC7 BA10358F
IC8 BA6302
IC9 MN4051BS
IC10 BA10358F
IC11 TC4S11F
IC12
IC13
IC17, 18 TC4S69F
SUB2 PWB
BR-S811E
DRUM DISCRI
CAP DISCRI
SLOW DISCRI
1/2 DRUM FV
1/2 5V(REG)
1/2 REF IN
1/2 SP/EP
1/2 12V
1/2 GND(12V)
S DATA 0
S DATA 1
S DATA 2
S DATA 3
S DATA 4
S DATA 5
SHAPED FG A
SHAPED FG B
CAP FG
CAP FG X4
PB CTL
V SRH
MD B
MD A
S REC
CTL PULSE
WRITE NE
DUTY CTL
AMP SW
READ WINDOW
WRITE MODE
CTL MUTE
FF. REW
CTL HEAD H
CTL HEAD C
TRC VR+
TRC VR-
HP CTL
INT REF
DRUM ON
D. LOCK CTL
ERROR SW
CFS SW
TRC
DRUM FG+
DRUM FG-
DRUM ERROR
GND
1/2 5V
1/2 GND(5V)
SP/EP
SERVO LOCK
PB U L(H)
S LOCK LED
DRUM LOCK
CAP LOCK
1/2 J13(5V)
1/2 D/C SRH
V SRH
DRUM SRH
CAP SRH
1/2 V SRH
CAP ON
1/10 DET
STOP F/R
TAPE REV
CAP REV
F/R CTL
S DATA 7
NO CTL
CTL P LED
HP HOLD
HP EN
CAP ERROR
1/2 J18(5VG)
1/2 DRUM FF
STOP
SLOW
S DATA 6
DP FF
6
5
4
3
2
1
A
B
C
D
E
F
G
H

4.54 SERVO-1 CIRCUIT BOARD

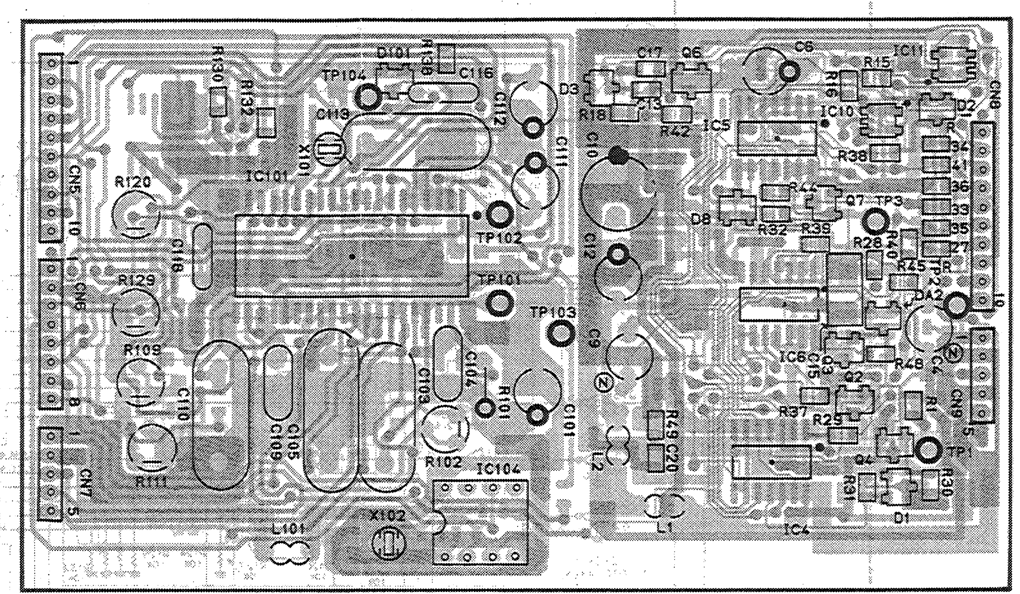


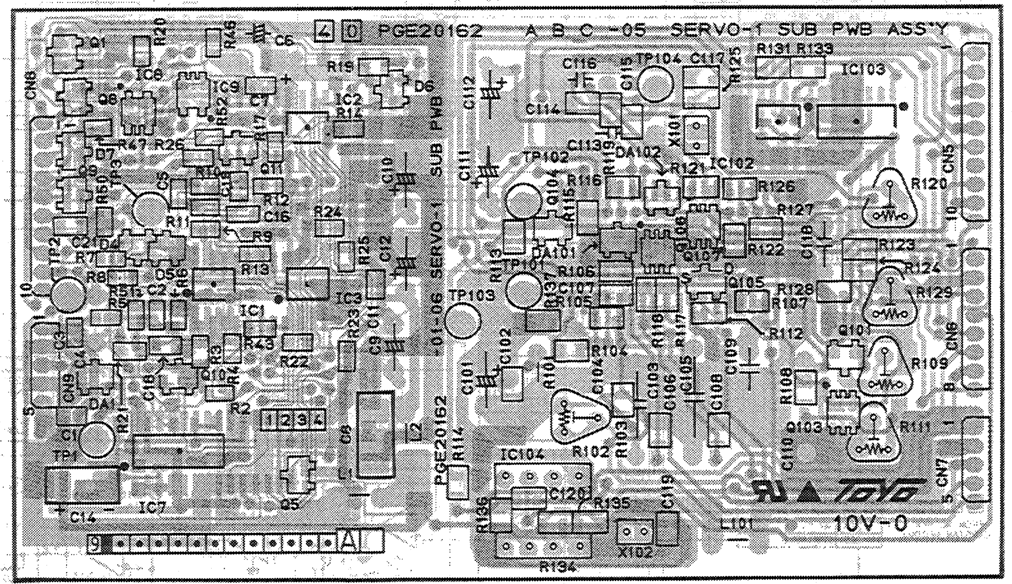
6
5
4
3
2
1
A
B
C
D
E
F
G
H
4-62
4-62
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN9
CN10
CN11
IC1
IC2
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC12
IC13
IC14
IC16
IC19
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP20
TP21
TP22
TP23
TP24
TP25
TP27
TP28
TP29
TP30
TP31
TP32
5VG
12VG
PGE10070 A B C D E F -06
SERVO-1 PWB ASS'Y
PGE10070 -01-08 SERVO-1 PWB

4.55 SERVO 1 SUB SCHEMATIC DIAGRAM

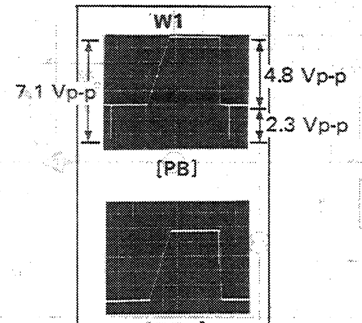


IC101 BA833F
Q101
IC103 MN4013BS
TRC PRESET
FROM/TO SERVO-1
C P CTL
CDW CTL
CDW CFG
CAP REV
C P ER
D P FF
REF IN
GND
5V
D P CTL
D P ER
C LOCK ER
TRC VR -
TRC VR +
HP CTL
INT REF
MD A
MD B
V SRH
D LOCK ER
IC102 BA10358F
IC104 SM6430C
X101
X102 PJ4720
Q104 Q105 Q106
Q107 IMZ2
IC7 MN4053BS
Q10, Q11 2SD601
IC1 NJM2068MD
IC2 BA6993F
IC3 NJM2068MD
12V
GND
CTL HEAD H
CTL HEAD C
PB CTL
TAPE REV
S REC
WRITE MODE
READ WINDOW
DUTY CTL
AMP SW
CTL PULSE
WRITE EN
FF REW
IC4
IC5 MN4081BS
IC6 MN4584BS
IC4 MN4011BS
IC11 TC4S71F
IC8 TC4S01F
IC9 TC4S81F
IC10 TC4S71F
SERVO-1 SUB

4.56 SERVO 1 SUB CIRCUIT BOARDS


TP104
D101
C116
IC101
X101
TP102
TP101
TP103
R120
R129
R109
R111
L101
X102
IC104
R102
IC5
IC10
IC11
IC6
IC4
TP3
TP2
TP1
CN5
CN6
CN7
CN8
CN9

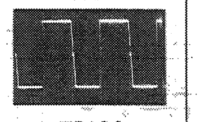

PGE20162 A B C -05 SERVO-1 SUB PWB ASS'Y
TP104
IC103
IC102
IC104
X101
X102
TP102
TP101
TP103
IC1
IC2
IC7
IC8
IC9
DA101
PGE20162
SERVO-1 SUB PWB
TOYO
10V-0
CN5
CN6
CN7
CN8
CN9

W1



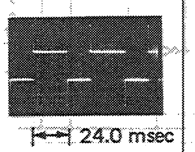
[REC]
TP101
25 Hz

W2

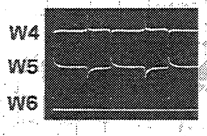


TP104
4.7 Vp-p/25 Hz
[PB/REC]

W3

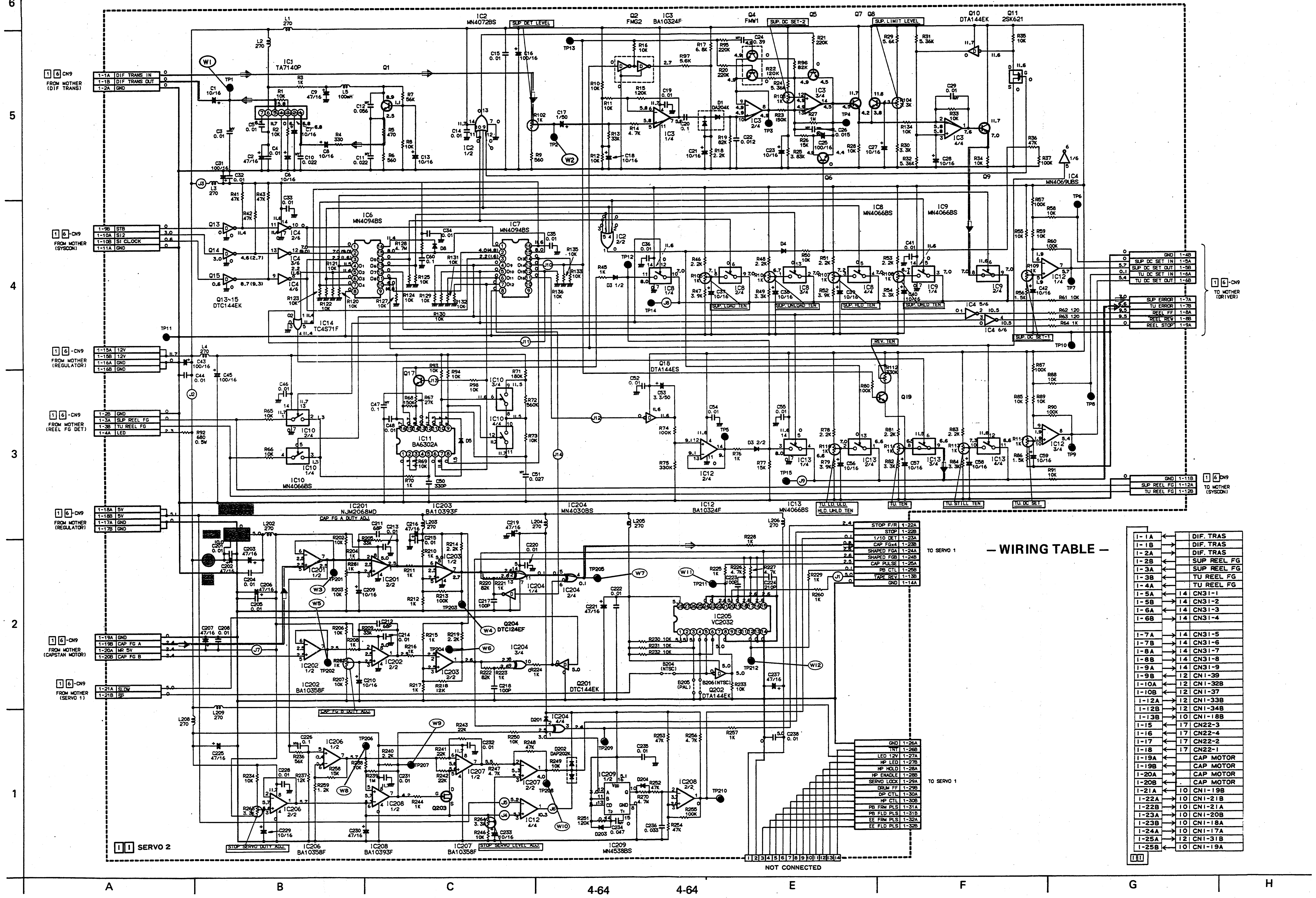


TP1
11.2 Vp-p, 25 Hz
[REC]



TP2: 240 mVp-p
TP3: 7.1 Vp-p
CN8-1: 4.1 Vp-p

4.57 SERVO 2 SCHEMATIC DIAGRAM

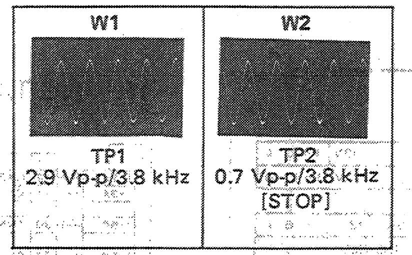

1 6 CN9 FROM MOTHER (DIF TRANS)
1 6 CN9 FROM MOTHER (SYSCON)
1 6 CN9 FROM MOTHER (REGULATOR)
1 6 CN9 FROM MOTHER (REEL FG DET)
1 6 CN9 FROM MOTHER (CAPSTAN MOTOR)
1 6 CN9 FROM MOTHER (SERVO 1)
1 6 CN9 TO MOTHER (DRIVER)
1 6 CN9 TO MOTHER (SYSCON)
TO SERVO 1
NOT CONNECTED
IC1 TA7140P
IC2 MN4072BS
IC3 BA10324F
IC4 MN4069UBS
IC6 MN4094BS
IC7 MN4094BS
IC8 MN4066BS
IC9 MN4066BS
IC10 MN4066BS
IC11 BA6302A
IC12 BA10324F
IC13 MN4066BS
IC14 TC4S71F
IC201 NJM2068MD
IC202 BA10358F
IC203 BA10393F
IC204 MN4030BS
IC205 VC2032
IC206 BA10358F
IC207 BA10358F
IC208 BA10393F
IC209 MN4538BS
Q2 FMG2
Q4 FMW1
Q10 DTA144EK
Q11 2SK621
Q13~15 DTC144EK
Q18 DTA144ES
Q201 DTC144EK
Q202 DTA144EK
Q204 DTC124EF
SUP DET LEVEL
SUP. DC SET-2
SUP. LIMIT LEVEL
SUP. LOAD TEN
SUP. UNLOAD TEN
SUP. HLD TEN
SUP. UHLD TEN
SUP. DC SET-1
REV. TEN
TU. LD, ULD, HLD, UHLD TEN
TU. TEN
TU. STILL TEN
TU. DC SET
CAP FG A DUTY ADJ.
CAP FG B DUTY ADJ.
STOP SERVO DUTY ADJ.
STOP SERVO LEVEL ADJ.
1 1 SERVO 2
A
B
C
D
E
F
G
H
1
2
3
4
5
6

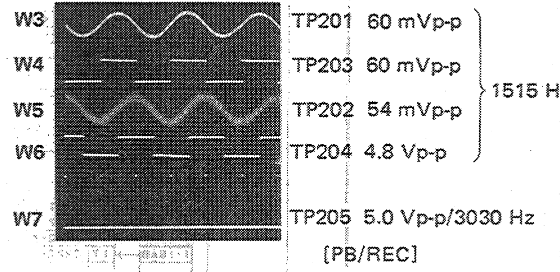
— WIRING TABLE —

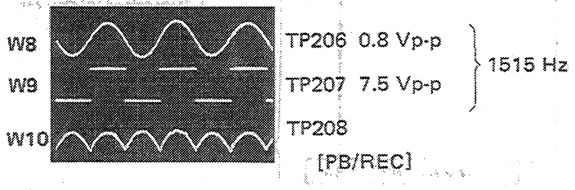
1-1A	←		DIF. TRAS
1-1B	→		DIF. TRAS
1-2A	→		DIF. TRAS
1-2B	←		SUP REEL FG
1-3A	←		SUP REEL FG
1-3B	←		TU REEL FG
1-4A	←		TU REEL FG
1-5A	←	14	CN31-1
1-5B	→	14	CN31-2
1-6A	←	14	CN31-3
1-6B	→	14	CN31-4
1-7A	→	14	CN31-5
1-7B	→	14	CN31-6
1-8A	→	14	CN31-7
1-8B	→	14	CN31-8
1-9A	→	14	CN31-9
1-9B	←	12	CN1-39
1-10A	←	12	CN1-32B
1-10B	←	12	CN1-37
1-12A	→	12	CN1-33B
1-12B	→	12	CN1-34B
1-13B	→	10	CN1-18B
1-15	←	17	CN22-3
1-16	←	17	CN22-4
1-17	←	17	CN22-2
1-18	←	17	CN22-1
1-19A	←		CAP MOTOR
1-19B	←		CAP MOTOR
1-20A	→		CAP MOTOR
1-20B	←		CAP MOTOR
1-21A	←	10	CN1-19B
1-22A	→	10	CN1-21B
1-22B	→	10	CN1-21A
1-23A	→	10	CN1-20B
1-23B	→	10	CN1-18A
1-24A	→	10	CN1-17A
1-25A	→	12	CN1-31B
1-25B	←	10	CN1-19A

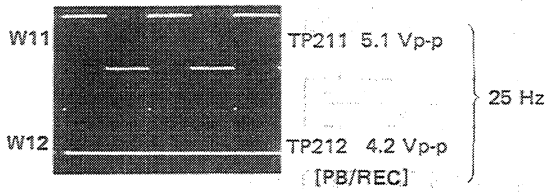
1 1

4.58 SERVO-2 CIRCUIT BOARD

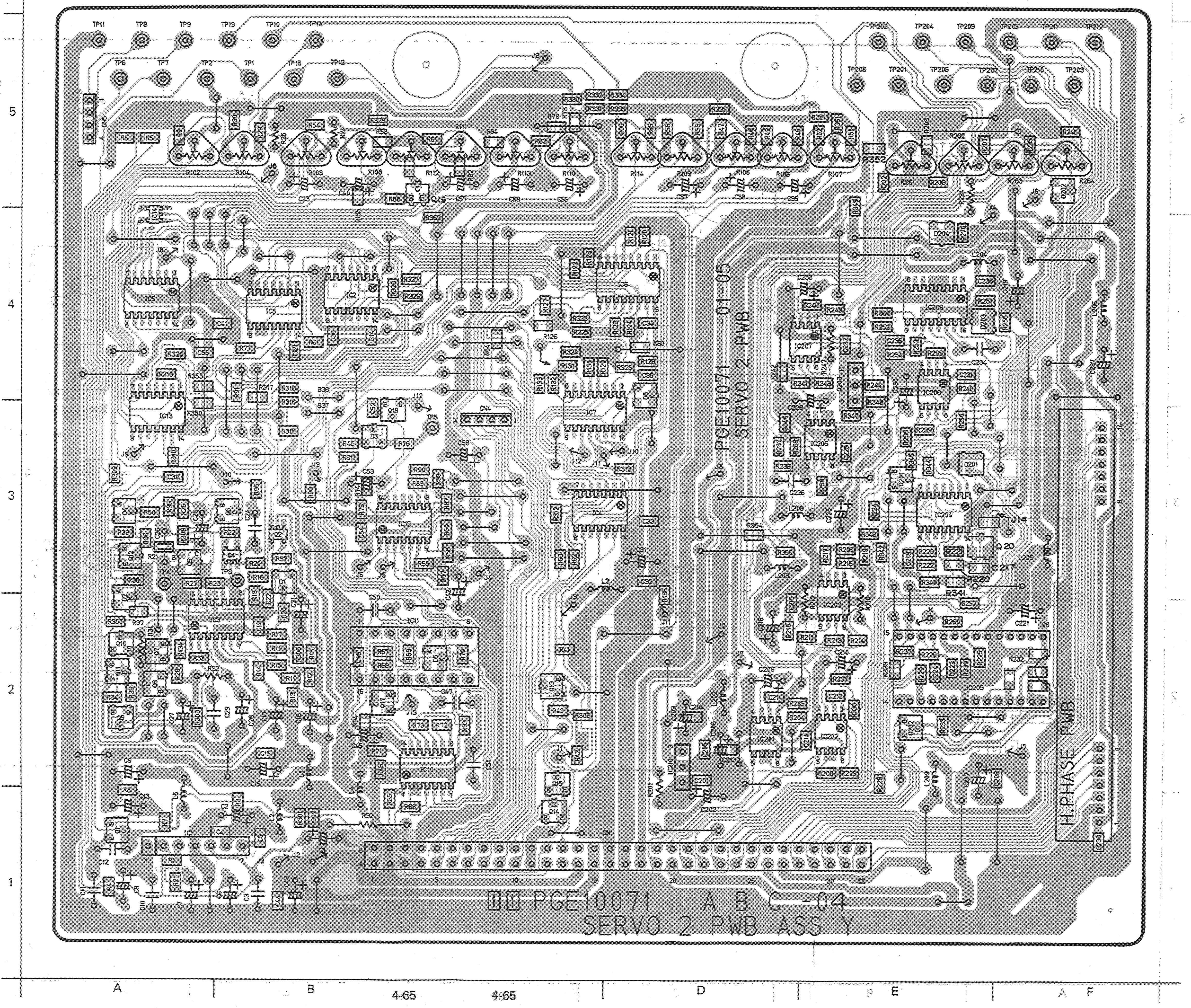




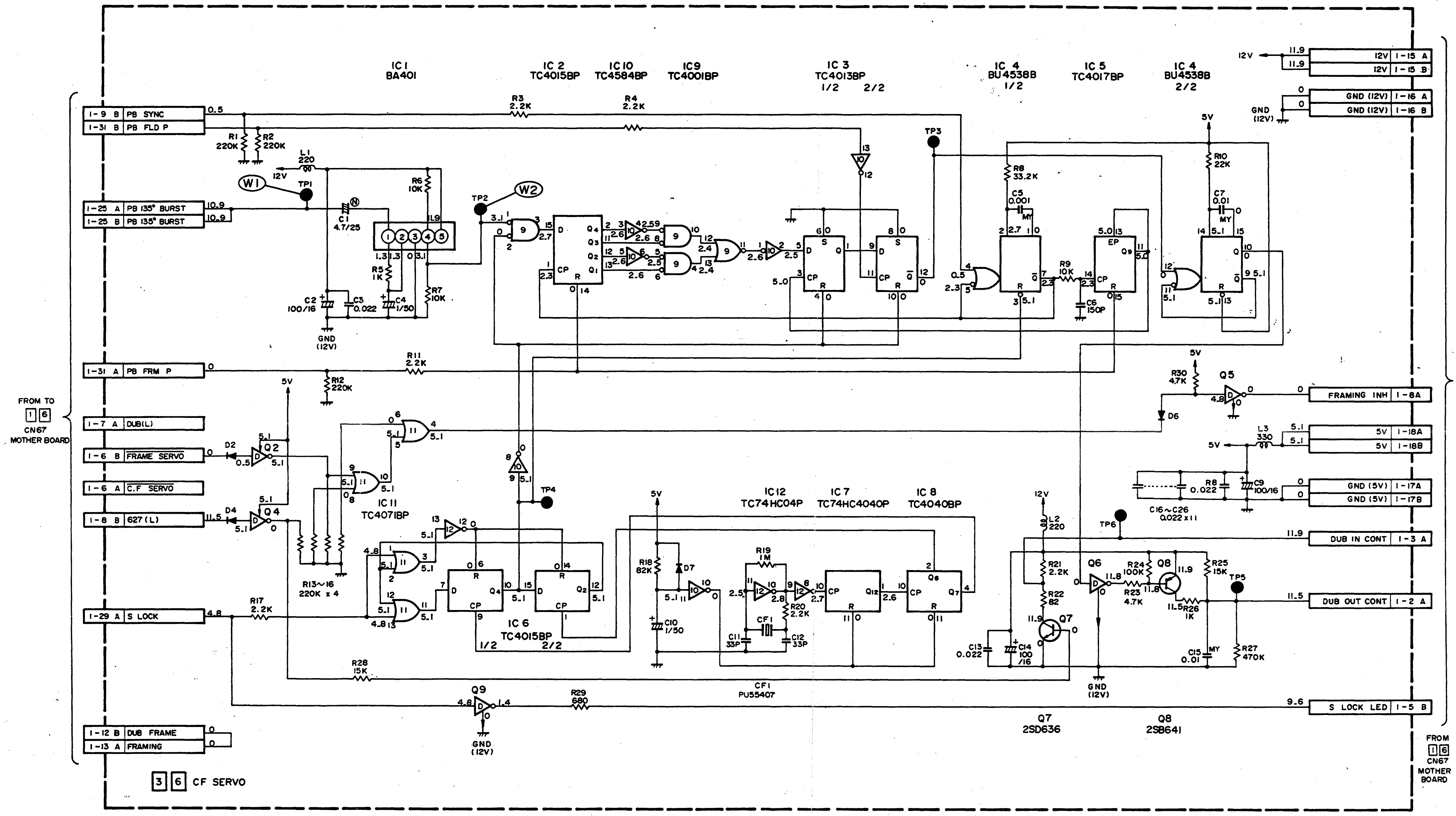




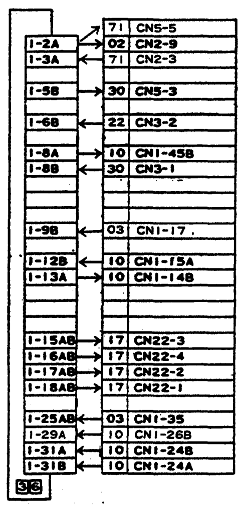
SYMBOL	PIN No.	NAME
IC6	④	SUP TC
	⑤	TU TC
	⑥	REEL HLD
	⑦	REEL UHLD
	⑭	REEL LD
	⑬	REEL ULD
	⑫	REEL STOP
	⑪	REEL STILL
IC7	④	REEL FF
	⑤	REEL REW
	⑥	PREROLL
	⑦	X20
	⑭	ACCESS
	⑬	REV
	⑫	CAP SRH
	⑪	D FF/REW


6
5
4
3
2
1
A
B
C
D
E
F
4-65
4-65
PGE10071 -01-05
SERVO 2 PWB
PGE10071 A B C -04
SERVO 2 PWB ASS'Y
H.PHASE PWB
IC1
IC2
IC3
IC4
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC201
IC202
IC203
IC204
IC205
IC206
IC207
IC208
IC209
IC210
CN1
CN4
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP201
TP202
TP203
TP204
TP205
TP206
TP207
TP208
TP209
TP210
TP211
TP212

4.59 BR-S611E COLOUR FRAME SERVO SCHEMATIC DIAGRAM

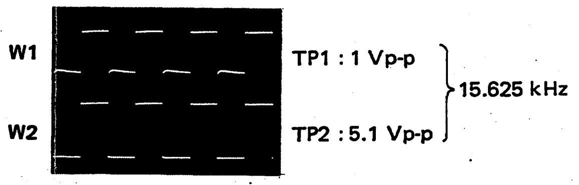

IC 1 BA401
IC 2 TC4015BP
IC 10 TC4584BP
IC 9 TC4001BP
IC 3 TC4013BP 1/2 2/2
IC 4 BU4538B 1/2
IC 5 TC4017BP
IC 4 BU4538B 2/2
IC 11 TC4071BP
IC 6 TC4015BP 1/2 2/2
IC 12 TC74HC04P
IC 7 TC74HC4040P
IC 8 TC4040BP
1-9 B PB SYNC
1-31 B PB FLD P
1-25 A PB 135° BURST
1-25 B PB 135° BURST
1-31 A PB FRM P
1-7 A DUB(L)
1-6 B FRAME SERVO
1-6 A C.F SERVO
1-8 B 627 (L)
1-29 A S LOCK
1-12 B DUB FRAME
1-13 A FRAMING
FROM TO 1 6 CN67 MOTHER BOARD
12V 1-15 A
12V 1-15 B
GND (12V) 1-16 A
GND (12V) 1-16 B
FRAMING INH 1-8A
5V 1-18A
5V 1-18B
GND (5V) 1-17A
GND (5V) 1-17B
DUB IN CONT 1-3 A
DUB OUT CONT 1-2 A
S LOCK LED 1-5 B
FROM 1 6 CN67 MOTHER BOARD
3 6 CF SERVO
W1 TP1
W2 TP2
TP3 TP4 TP5 TP6
R1 220K R2 220K
R3 2.2K R4 2.2K
L1 220 12V
C1 4.7/25
C2 100/16 C3 0.022 C4 1/50
R5 1K R6 10K R7 10K
GND (12V)
R8 33.2K C5 0.001 MY
R9 10K C6 150P
R10 22K C7 0.01 MY
R11 2.2K R12 220K
R13~16 220K x 4
R17 2.2K
R18 82K D7 C10 1/50
R19 1M R20 2.2K CF1 C11 33P C12 33P
CF1 PU55407
R21 2.2K R22 82 L2 220 12V
C13 0.022 C14 100/16
R23 4.7K R24 100K R25 15K R26 1K R27 470K
C15 0.01 MY
R28 15K R29 680
R30 4.7K D6 Q5
L3 330 5V
R8 0.022 C9 100/16
C16~C26 0.022 x 11
D2 Q2 D4 Q4
Q6 Q7 Q8 Q9
GND (12V)
Q7 2SD636
Q8 2SB641

— WIRING TABLE —

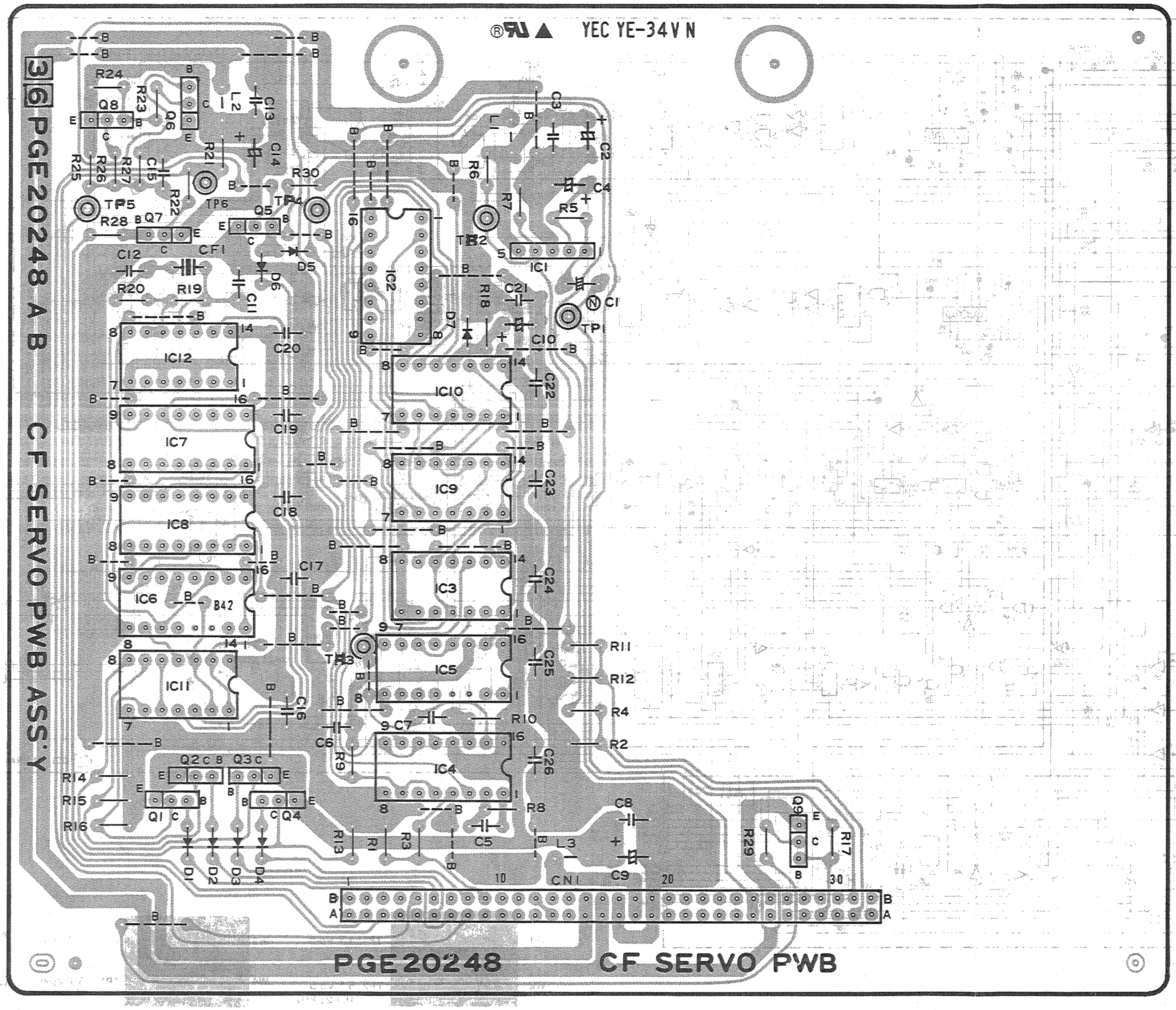


1-2A	→	71	CN5-5
1-2A	→	02	CN2-9
1-3A	←	71	CN2-3
1-5B	→	30	CN5-3
1-6B	←	22	CN3-2
1-8A	→	10	CN1-45B
1-8B	←	30	CN3-1
1-9B	←	03	CN1-17
1-12B	←	10	CN1-15A
1-13A	→	10	CN1-14B
1-15AB	→	17	CN22-3
1-16AB	→	17	CN22-4
1-17AB	→	17	CN22-2
1-18AB	→	17	CN22-1
1-25AB	←	03	CN1-35
1-29A	←	10	CN1-26B
1-31A	←	10	CN1-24B
1-31B	←	10	CN1-24A

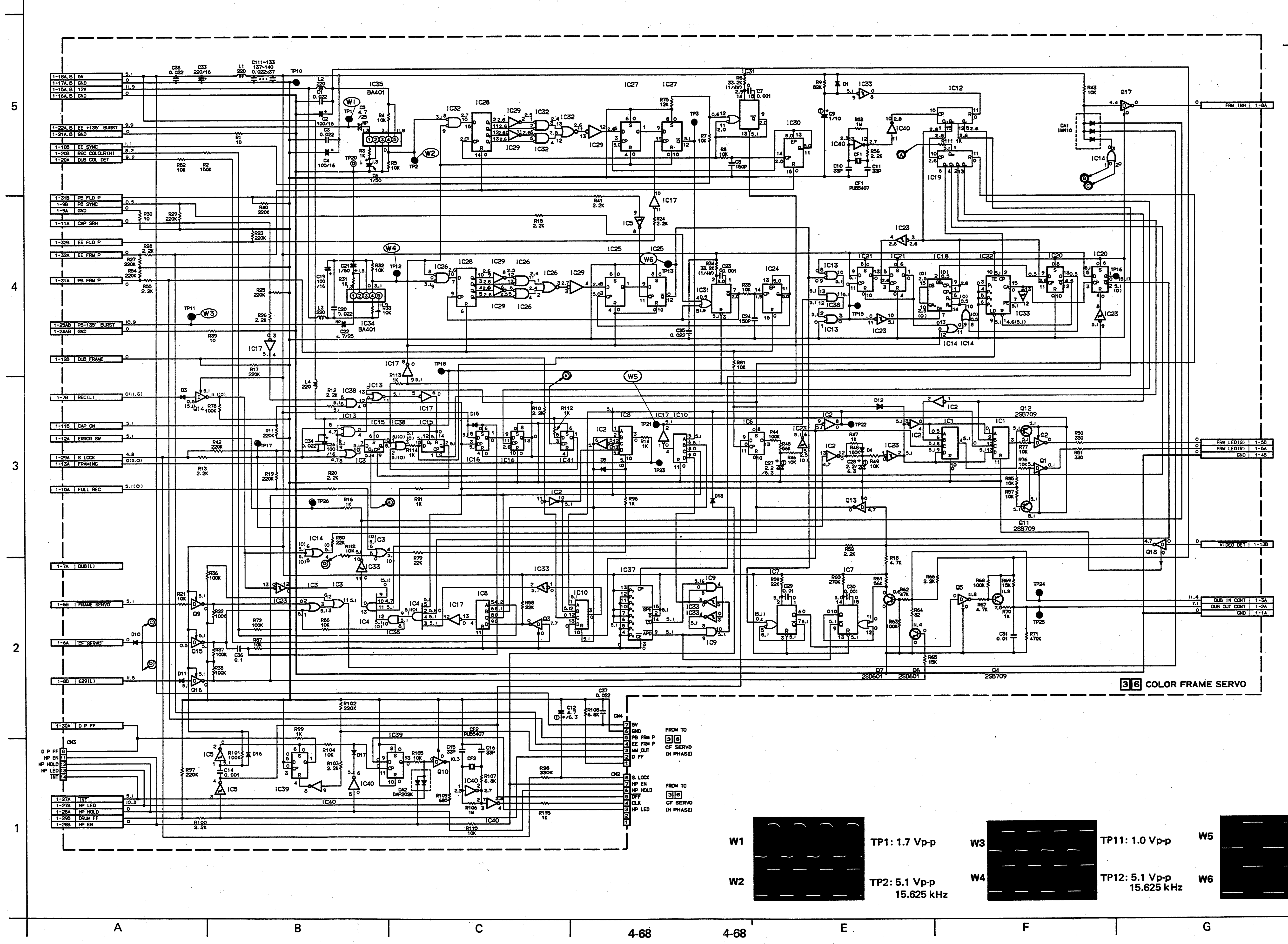
3 6



TP1 : 1 Vp-p
TP2 : 5.1 Vp-p
15.625 kHz


6
5
4
3
2
1
YEC YE-34V N
36 PGE20248 A B CF SERVO PWB ASS'Y
R24
R23
Q8
Q6
L2
C13
C14
R21
R25
R26
R27
C15
R22
TP5
TP6
TP4
R28
Q7
Q5
R30
CF1
C12
D5
D6
R20
R19
C11
IC12
C20
IC7
C19
IC8
C18
IC6
B42
C17
IC11
C16
C6
R9
R14
R15
R16
Q1
Q2
Q3
Q4
D1
D2
D3
D4
R13
R1
R3
IC2
D7
R6
R7
R18
C21
TP2
R5
C3
C2
C4
IC1
C1
TP1
C10
IC10
C22
IC9
C23
IC3
C24
IC5
C25
TP3
C7
R10
IC4
C26
R8
C5
L3
C8
C9
R11
R12
R4
R2
Q9
R29
R17
CN1
10
20
30
PGE20248
CF SERVO PWB
A
B
C
D
E
F
G
H

4.61 BR-S811E COLOUR FRAME SERVO SCHEMATIC DIAGRAM


6
5
4
3
2
1
A
B
C
E
F
G
H
1-18A,B 5V
1-17A,B GND
1-15A,B 12V
1-16A,B GND
1-22A,B EE +135° BURST
1-21A,B GND
1-10B EE SYNC
1-20B REC COLOUR(H)
1-20A DUB COL DET
1-31B PB FLD P
1-9B PB SYNC
1-9A GND
1-11A CAP SRH
1-32B EE FLD P
1-32A EE FRM P
1-31A PB FRM P
1-25AB PB-135° BURST
1-24AB GND
1-12B DUB FRAME
1-7B REC(L)
1-11B CAP ON
1-12A ERROR SW
1-29A S LOCK
1-13A FRAMING
1-10A FULL REC
1-7A DUB(L)
1-6B FRAME SERVO
1-6A CF SERVO
1-8B 629(L)
1-30A D P FF
1-27A TINT
1-27B HP LED
1-28A HP HOLD
1-29B DRUM FF
1-28B HP EN
FRM INH 1-8A
FRM LED(G) 1-5B
FRM LED(R) 1-5A
GND 1-4B
VIDEO DET 1-13B
DUB IN CONT 1-3A
DUB OUT CONT 1-2A
GND 1-1A
CN4
5V
GND
PB FRM P
EE FRM P
MM OUT
D FF
CN2
S. LOCK
HP EN
HP HOLD
OFF
CLK
HP LED
FROM TO 36 CF SERVO (H PHASE)
FROM TO 36 CF SERVO (H PHASE)
36 COLOR FRAME SERVO
W1
W2
W3
W4
W5
W6
TP1: 1.7 Vp-p
TP2: 5.1 Vp-p 15.625 kHz
TP11: 1.0 Vp-p
TP12: 5.1 Vp-p 15.625 kHz
TP21: 5.1 Vp-p
TP13: 5.1 Vp-p 12.5 Hz

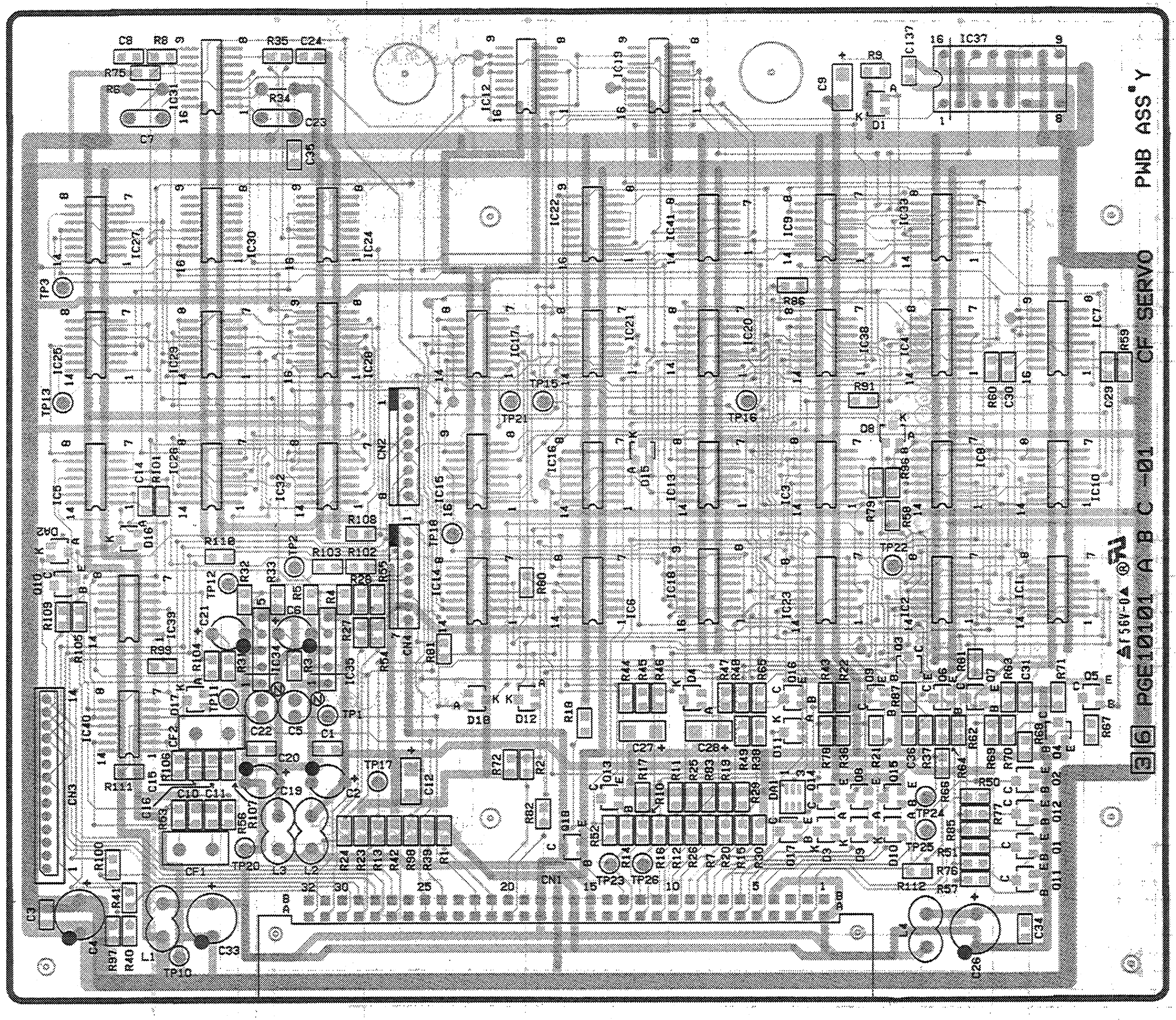
– WIRING TABLE –

	↗	71	CN5-5
1-2A	→	02	CN2-9
1-3A	←	71	CN2-3
1-4B	→	30	CN5-5
1-5A	→	30	CN5-4
1-5B	→	30	CN5-3
1-6A	←	22	CN3-5
1-6B	←	22	CN3-2
1-7B	→	12	CN1-12A
1-8A	→	10	CN1-45B
1-8B	←	30	CN3-1
1-9B	←	03	CN1-17
1-10A	←	10	CN1-33B
1-10B	←	10	CN1-33A
1-11A	←	10	CN1-32B
1-11B	←	10	CN1-32A
1-12A	→	10	CN1-15B
1-12B	←	10	CN1-15A
1-13A	→	10	CN1-14B
1-13B	←	10	CN1-14A
1-15AB	←	17	CN22-3
1-16AB	←	17	CN22-4
1-17AB	←	17	CN22-2
1-18AB	←	17	CN22-1
1-20A	←	01	CN1-1B
1-20B	←	01	CN1-2B
1-21AB	←	01	CN1-3B
1-22AB	←	01	CN1-4B
1-24AB	←	03	CN1-36
1-25AB	←	03	CN1-35
1-27A	←	10	CN1-29A
1-27B	↘	30	CN5-1
1-28A	←	10	CN1-27B
1-28B	←	10	CN1-27A
1-29A	←	10	CN1-26B
1-29B	←	10	CN1-26A
1-30A	→	10	CN1-25B
1-31A	←	10	CN1-24B
1-31B	←	10	CN1-24A
1-32A	←	10	CN1-23B
1-32B	←	10	CN1-23A

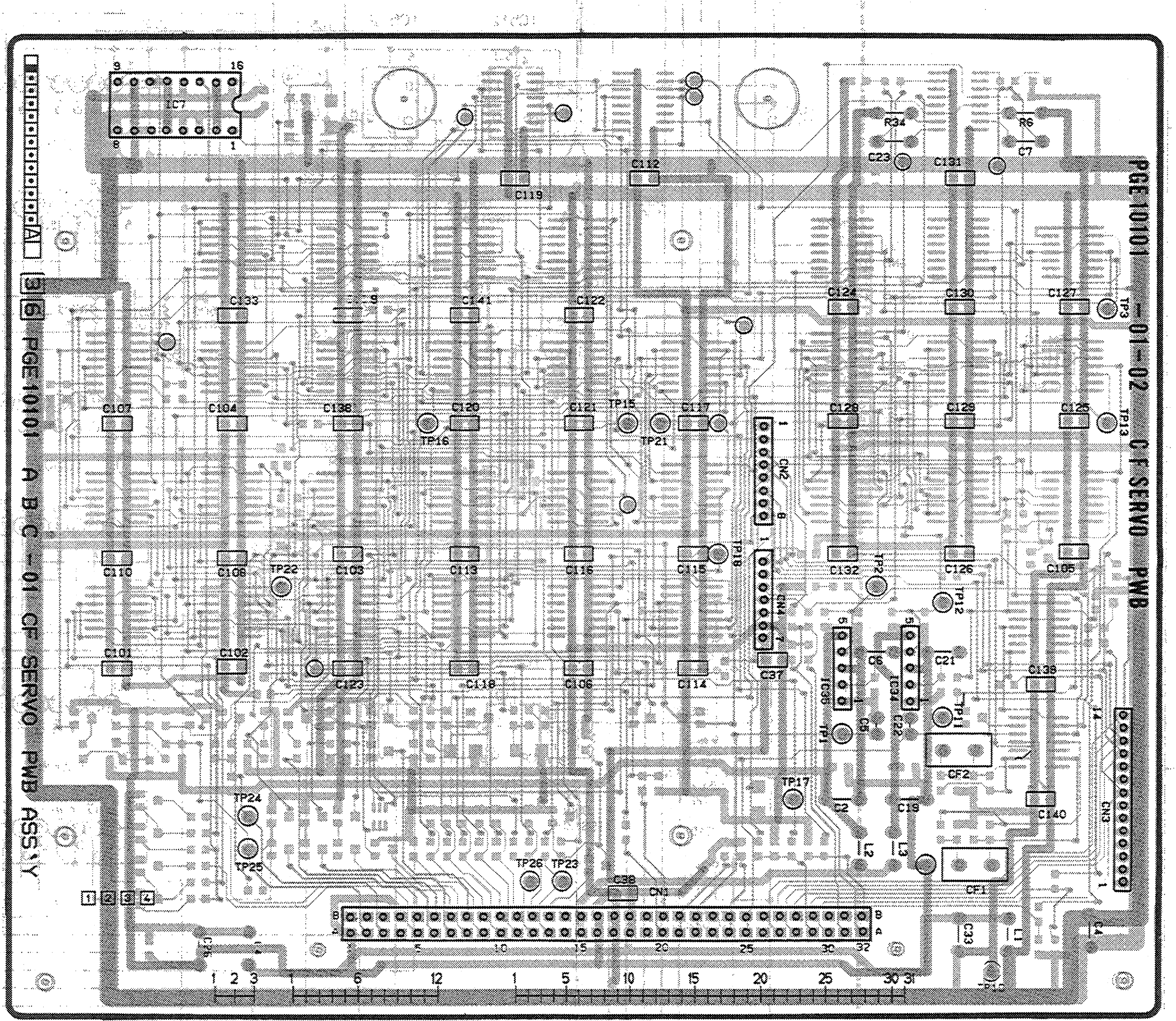
36

4.62 BR-S811E COLOUR FRAME SERVO CIRCUIT BOARD

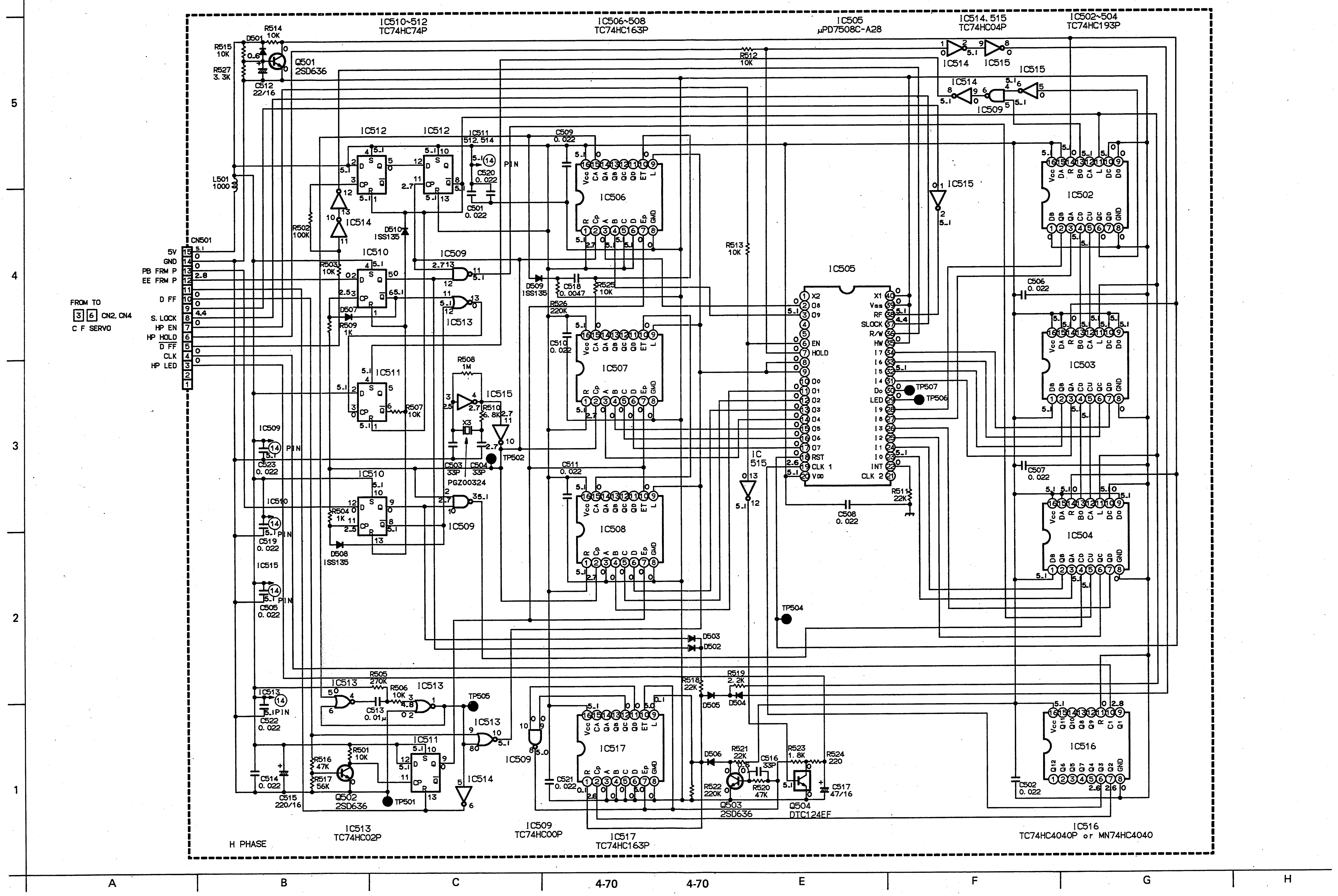
— Parts side —


PWB ASS'Y
CF SERVO
PGE10101 A B C -01
IC37
IC12
IC19
IC22
IC41
IC9
IC33
IC27
IC30
IC24
IC25
IC29
IC28
IC17
IC21
IC20
IC38
IC4
IC7
IC5
IC32
IC15
IC16
IC13
IC3
IC8
IC10
IC14
IC6
IC18
IC23
IC2
IC1
IC39
IC34
IC35
IC40
CN1
CN2
CN3
CN4
CF1
CF2
TP1
TP2
TP3
TP10
TP11
TP12
TP13
TP15
TP16
TP17
TP18
TP20
TP21
TP22
TP23
TP24
TP26

— Solder side —

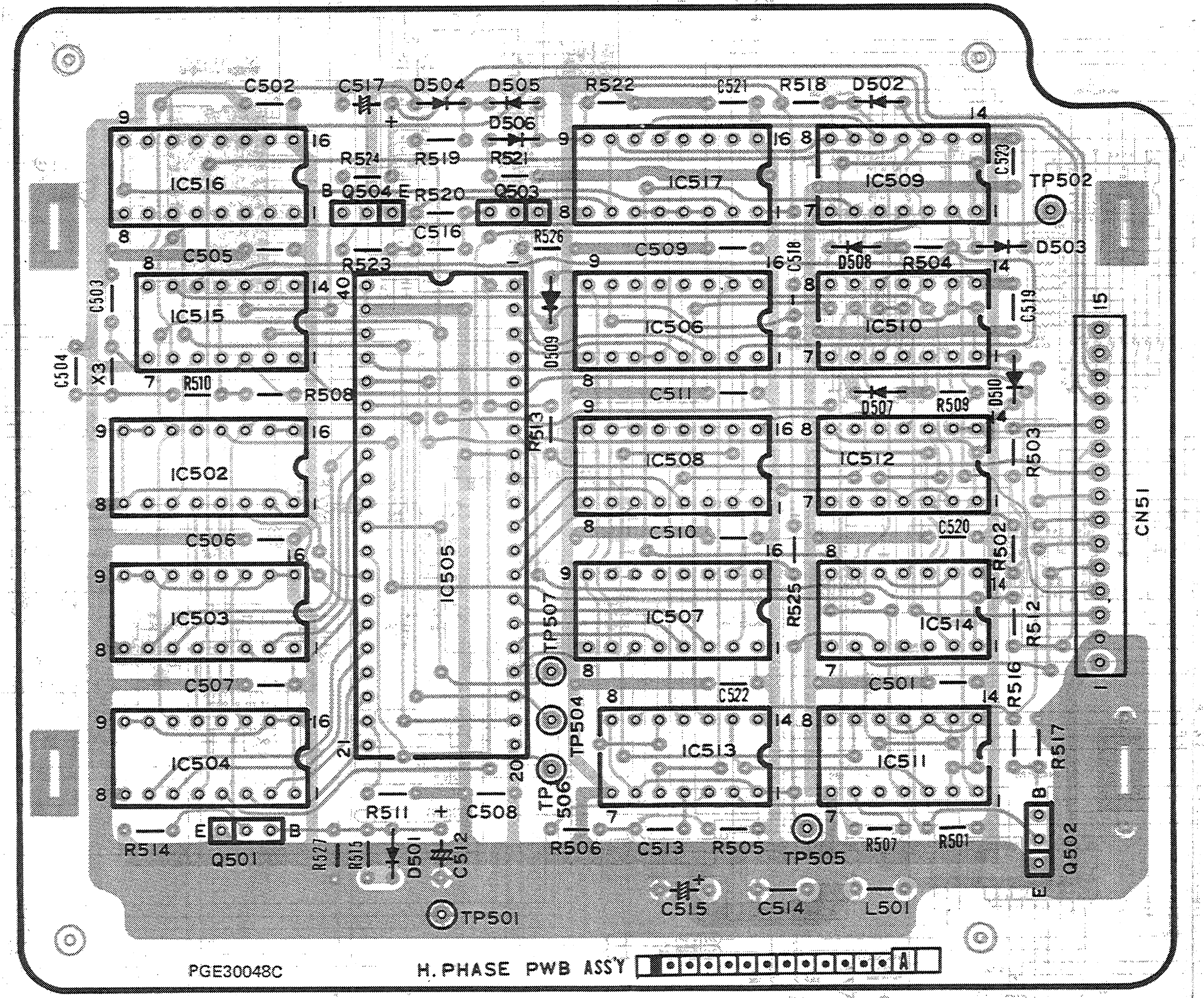

PGE10101 -01-02 C F SERVO PWB
PGE10101 A B C -01 CF SERVO PWB ASS'Y
IC7
CN1
CN2
CN3
CN4
CF1
CF2
C133
C141
C122
C124
C130
C127
C107
C104
C138
C120
C121
C117
C128
C129
C125
C110
C109
C103
C113
C116
C115
C132
C126
C105
C101
C102
C123
C118
C106
C114
C37
C139
C140
C112
C119
C131
C38
TP1
TP2
TP3
TP11
TP12
TP13
TP15
TP16
TP17
TP18
TP21
TP22
TP23
TP24
TP25
TP26

4.63 H PHASE SCHEMATIC DIAGRAM (BR-S811E only)


IC510~512
TC74HC74P
IC506~508
TC74HC163P
IC505
μPD7508C-A28
IC514, 515
TC74HC04P
IC502~504
TC74HC193P
R514 10K
D501
R515 10K
R527 3.3K
Q501 2SD636
C512 22/16
R512 10K
L501 1000
IC512
IC511 512, 514
C509 0.022
C520 0.022
C501 0.022
PIN
IC506
IC507
IC508
IC502
IC503
IC504
IC516
IC517
R502 100K
IC514
D510 1SS135
IC510
IC509
R503 10K
D509 1SS135
C518 0.0047
R525 10K
R526 220K
C510 0.022
R513 10K
C506 0.022
C507 0.022
CN501
5V
GND
PB FRM P
EE FRM P
D FF
S. LOCK
HP EN
HP HOLD
D FF
CLK
HP LED
FROM TO
3 6 CN2, CN4
C F SERVO
D507
R509 1K
IC513
R508 1M
IC515
R507 10K
R510 6.8K
X3
C503 33P
C504 33P
PGZ00324
TP502
C511 0.022
C523 0.022
C519 0.022
C505 0.022
R504 1K
D508 1SS135
X1
Vss
RF
SLOCK
R/W
HW
EN
HOLD
D0
D1
D2
D3
D4
D5
D6
D7
RST
CLK 1
VDD
Do
LED
INT
CLK 2
TP507
TP506
C508 0.022
R511 22K
TP504
D503
D502
R505 270K
R506 10K
C513 0.01μ
TP505
C522 0.022
C514 0.022
C515 220/16
R501 10K
R516 47K
R517 56K
Q502 2SD636
TP501
R518 22K
R519 2.2K
D505
D504
D506
R521 22K
C516 33P
R522 220K
R520 47K
Q503 2SD636
R523 1.8K
R524 220
C517 47/16
Q504 DTC124EF
C521 0.022
C502 0.022
IC513 TC74HC02P
IC509 TC74HC00P
IC517 TC74HC163P
IC516 TC74HC4040P or MN74HC4040
H PHASE
6
5
4
3
2
1
A
B
C
4-70
4-70
E
F
G
H

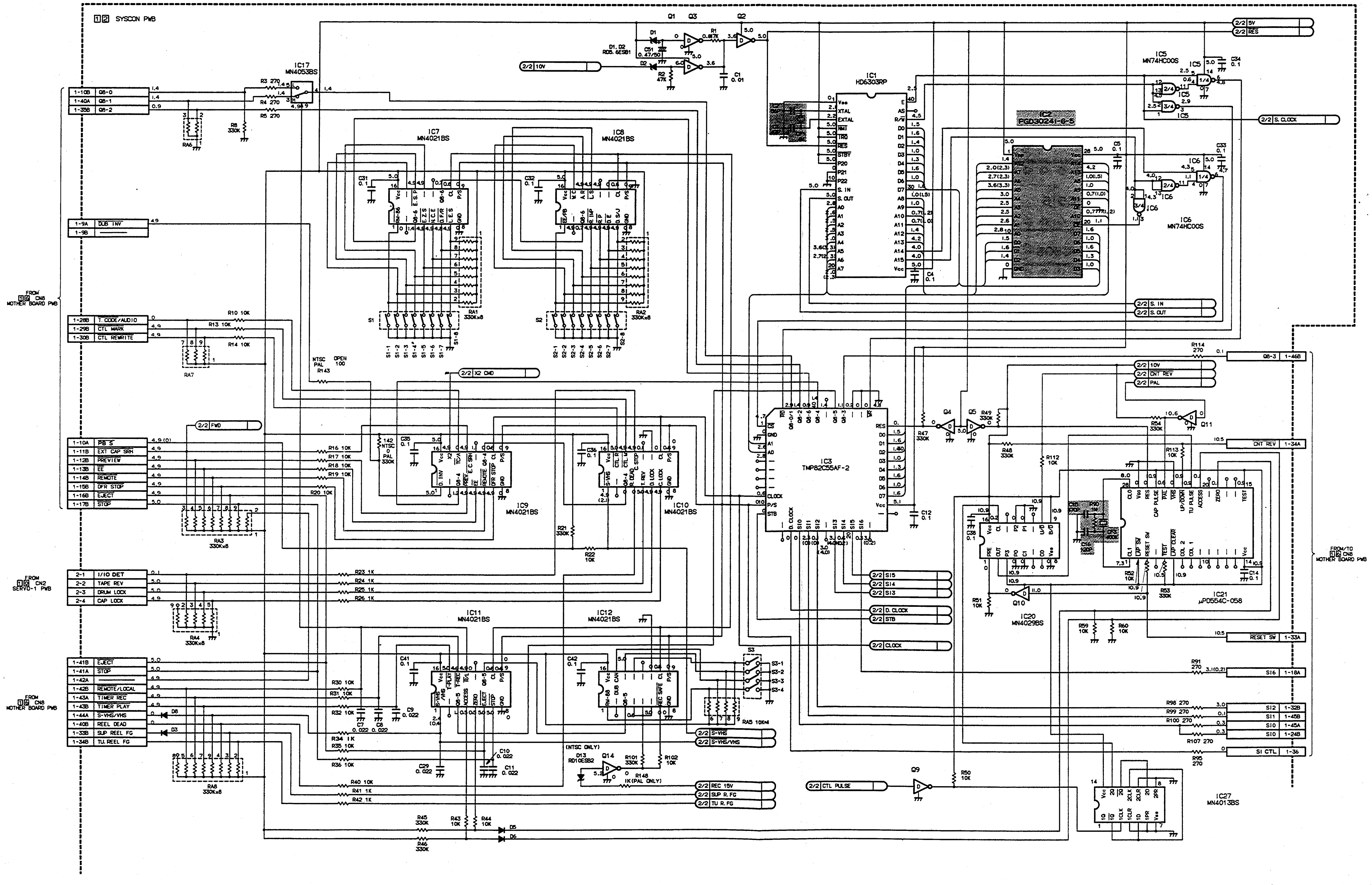
4.64 H PHASE CIRCUIT BOARD (BR-S811E only)

— H PHASE —


C502
C517
D504
D505
D506
R522
C521
R518
D502
IC516
R524
R519
R521
Q504
R520
Q503
R526
IC517
IC509
C523
TP502
C516
C505
R523
C509
C518
D508
R504
D503
IC515
C503
C504
X3
R510
R508
IC506
IC510
C519
D509
C511
D507
R509
D510
IC502
R513
IC508
IC512
R503
C506
IC505
C510
C520
R502
IC503
TP507
IC507
R525
IC514
R512
C507
TP504
C522
C501
R516
IC504
IC513
IC511
R517
TP506
R511
C508
R506
C513
R505
TP505
R507
R501
Q502
R514
Q501
R527
R515
D501
C512
C515
C514
L501
TP501
CN51
PGE30048C
H. PHASE PWB ASS'Y
A

4.65 SYSCON SCHEMATIC DIAGRAM

– DIAGRAM 1/2 –



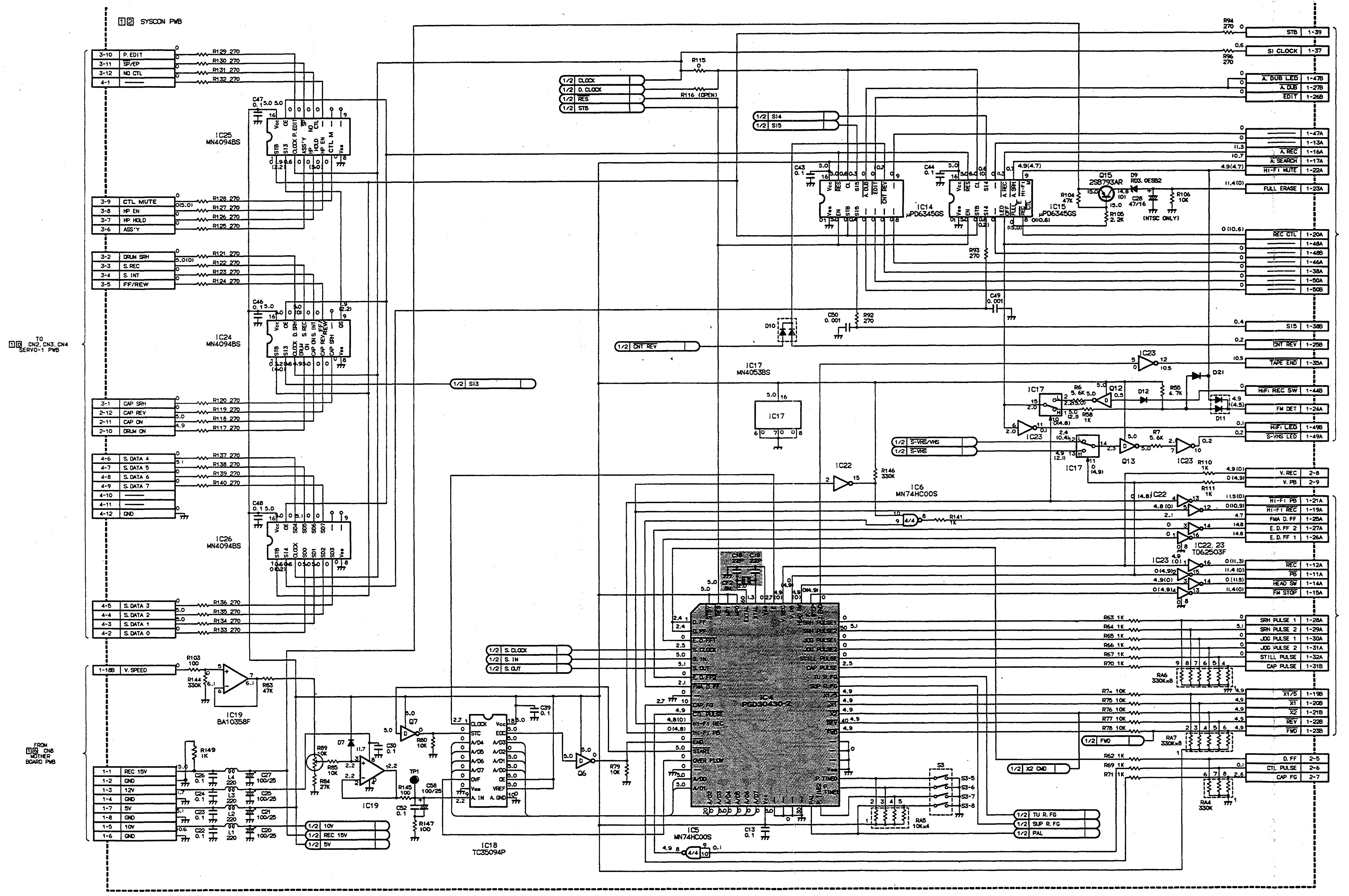
12 SYSCON PWB
FROM 16 CN8 MOTHER BOARD PWB
1-10B Q8-0
1-40A Q8-1
1-35B Q8-2
1-9A DUB INV
1-9B
1-28B T. CODE/AUDIO
1-29B CTL MARK
1-30B CTL REWRITE
1-10A PB S
1-11B EXT CAP SRH
1-12B PREVIEW
1-13B EE
1-14B REMOTE
1-15B DFR STOP
1-16B EJECT
1-17B STOP
FROM 10 CN2 SERVO-1 PWB
2-1 I/IO DET
2-2 TAPE REV
2-3 DRUM LOCK
2-4 CAP LOCK
FROM 16 CN8 MOTHER BOARD PWB
1-41B EJECT
1-41A STOP
1-42A
1-42B REMOTE/LOCAL
1-43A TIMER REC
1-43B TIMER PLAY
1-44A S-VHS/VHS
1-40B REEL DEAD
1-33B SUP REEL FG
1-34B TU. REEL FG
RA3 330K×8
RA4 330K×8
RA6
RA7
RA8 330K×8
IC17 MN4053BS
IC7 MN4021BS
IC8 MN4021BS
IC1 HD6303RP
IC2 PGD3024I-6-S
IC5 MN74HC00S
IC6 MN74HC00S
IC3 TMP82C55AF-2
IC9 MN4021BS
IC10 MN4021BS
IC11 MN4021BS
IC12 MN4021BS
IC20 MN4029BS
IC21 µPD554C-058
IC27 MN4013BS
Q1 Q3 Q2
D1, D2 RD5. 6ESB1
2/2 5V
2/2 RES
2/2 10V
2/2 S. CLOCK
2/2 S. IN
2/2 S. OUT
2/2 X2 CHD
2/2 FWD
2/2 10V
2/2 CNT REV
2/2 PAL
2/2 S15
2/2 S14
2/2 S13
2/2 D. CLOCK
2/2 STB
2/2 CLOCK
2/2 S-VHS
2/2 S-VHS/VHS
2/2 REC 15V
2/2 SUP R. FG
2/2 TU R. FG
2/2 CTL PULSE
Q8-3 1-46B
CNT REV 1-34A
RESET SW 1-33A
S16 1-18A
S12 1-32B
S11 1-45B
S10 1-45A
S10 1-24B
SI CTL 1-36
FROM/TO 16 CN8 MOTHER BOARD PWB
S1
S2
S3
RA1 330K×8
RA2 330K×8
RA5 10K×4
(NTSC ONLY)
D13 RD10ESB2
R148 1K(PAL ONLY)
NTSC PAL OPEN 100 R143

– WIRING TABLE –

1-10A	←	02	CN2-32B
1-10B	←	28	CN3-1
1-11B	←	28	CN2-4
1-12B	←	28	CN1-3
1-13B	←	28	CN2-5
1-14B	←	28	CN1-4
1-15B	←	28	CN2-6
1-16B	←	28	CN2-7
1-17B	←	28	CN1-5
1-18A	→	08	CN10-46
1-24B	→	28	CN3-2
1-28B	←	73	CN1-1
1-32B	→	11	CN1-10A
1-33A	←	20	CN3-3
1-33B	←	11	CN1-12A
1-34A	→	20	CN3-4
1-34B	←	11	CN1-12B
1-35B	←	14	CN9-2
1-36	→	14	CN9-3
	→	20	CN2-10
	→	28	CN3-4
1-40A	←	20	CN2-3
1-40B	←	14	CN9-7
1-41A	←	20	CN2-6
1-41B	←	20	CN2-5
1-42B	←	22	CN4-4
1-43A	←	73	CN5-1
1-43B	←	73	CN5-2
1-44A	←	30	CN3-3
1-45A	→	20	CN2-7
1-45B	→	20	CN2-8
1-46B	←	20	CN2-4
2-X	—	10	CN2-X

12

— DIAGRAM 2/2 —


12 SYSCON PWB
TO 12 CN2, CN3, CN4 SERVO-1 PWB
FROM 12 CN8 MOTHER BOARD PWB
FROM/TO 12 CN8 MOTHER BOARD PWB
TO 12 CN2 SERVO-1 PWB
FROM/TO 12 CN8 MOTHER BOARD PWB
FROM 12 CN2 SERVO-1 PWB
IC25 MN4094BS
IC24 MN4094BS
IC26 MN4094BS
IC14 μPD6345GS
IC15 μPD6345GS
Q15 2SB793AR
IC17 MN4053BS
IC6 MN74HC00S
IC4 PGD30430-Z
IC5 MN74HC00S
IC19 BA10358F
IC18 TC35094P
IC22, 23 TD62503F
P. EDIT
SP/EP
NO CTL
CTL MUTE
HP EN
HP HOLD
ASS'Y
DRUM SRH
S. REC
S. INT
FF/REW
CAP SRH
CAP REV
CAP ON
DRUM ON
S. DATA 4
S. DATA 5
S. DATA 6
S. DATA 7
GND
S. DATA 3
S. DATA 2
S. DATA 1
S. DATA 0
V. SPEED
REC 15V
12V
5V
10V
CLOCK
D. CLOCK
RES
STB
S14
S15
S13
CNT REV
S. CLOCK
S. IN
S. OUT
S-VHS/VHS
S-VHS
FWD
X2 CMD
TU R. FG
SUP R. FG
PAL
SI CLOCK
A. DUB LED
A. DUB
EDIT
A. REC
A. SEARCH
HI-FI MUTE
FULL ERASE
REC CTL
TAPE END
HiFi REC SW
FM DET
HiFi LED
S-VHS LED
V. REC
V. PB
HI-FI PB
HI-FI REC
FMA D. FF
E. D. FF 2
E. D. FF 1
REC
PB
HEAD SW
FM STOP
SRH PULSE 1
SRH PULSE 2
JOG PULSE 1
JOG PULSE 2
STILL PULSE
CAP PULSE
X1/5
X1
X2
REV
FWD
D. FF
CTL PULSE
CAP FG
(NTSC ONLY)

— S. DATA —

SPEED	0	1/30	1/15	1/8	1/5	1/2	1	2	6	10
S. DATA 0	0	1	0	1	0	1	0	1	0	1
1	0	0	1	1	0	0	1	1	0	0
2	0	0	0	0	1	1	1	1	0	0
3	0	0	0	0	0	0	0	0	1	1

S. DATA 4 5	} NOT USED
6	H : BUMP
7	H : −10%, L : +10%

— WIRING TABLE —

1-1	←	17	CN5-1
1-2	←	17	CN5-2
1-3	←	17	CN5-3
1-4	←	17	CN5-4
1-5	←	17	CN5-5
1-6	←	17	CN5-6
1-7	←	17	CN5-7
1-8	←	17	CN5-8
	↗	01	CN1-5A
1-11A	→	03	CN1-46
1-12A	→	03	CN1-47
	↘	01	CN1-4A
	↘	36	CN1-7B
1-14A	→	03	CN1-48
	↘	01	CN1-3A
1-15A	→	03	CN1-49
	↘	01	CN1-2A
1-16A	→	01	CN1-1A
1-17A	→	08	CN10-48
1-18B	←	28	CN2-8
1-19A	→	07	CN5-18B
1-19B	←	28	CN2-1
1-20A	→	07	CN5-19B
1-20B	←	28	CN2-2
1-21A	→	07	CN5-21B
1-21B	←	28	CN2-3
1-22A	→	07	CN5-28
1-22B	←	28	CN1-1
1-23A	→		FE HEAD
1-23B	←	28	CN1-2
1-24A	←	09	CN3-4
1-25A	→	09	CN3-6
1-25B	→	28	CN1-7
1-26A	→	09	CN3-2
1-26B	→	28	CN1-6
1-27A	→	09	CN3-3
1-27B	→	28	CN2-9
1-28A	←	24	CN1-4
1-29A	←	24	CN1-5
1-30A	←	24	CN1-2
1-31A	←	24	CN1-3
1-31B	←	11	CN1-25A
1-32A	←	24	CN1-6
1-35A	→	20	CN3-5
1-37	→	08	CN10-45
	↘	11	CN1-10B
	↘	14	CN9-4
	↘	20	CN2-11
	↘	28	CN3-5
1-38B	→	14	CN9-5
1-39	→	08	CN10-47
	↘	11	CN1-9B
	↘	14	CN9-6
	↘	20	CN2-9
	↘	28	CN3-3
1-44B	←	22	CN1-6
1-47B	→	20	CN3-1
1-49A	→	20	CN3-2
1-49B	→	30	CN4-2
2-X	—	10	CN2-X
3-X	—	10	CN3-X
4-X	—	10	CN4-X

12

6

4.66 SYSCON CIRCUIT BOARDS

– PARTS SIDE –

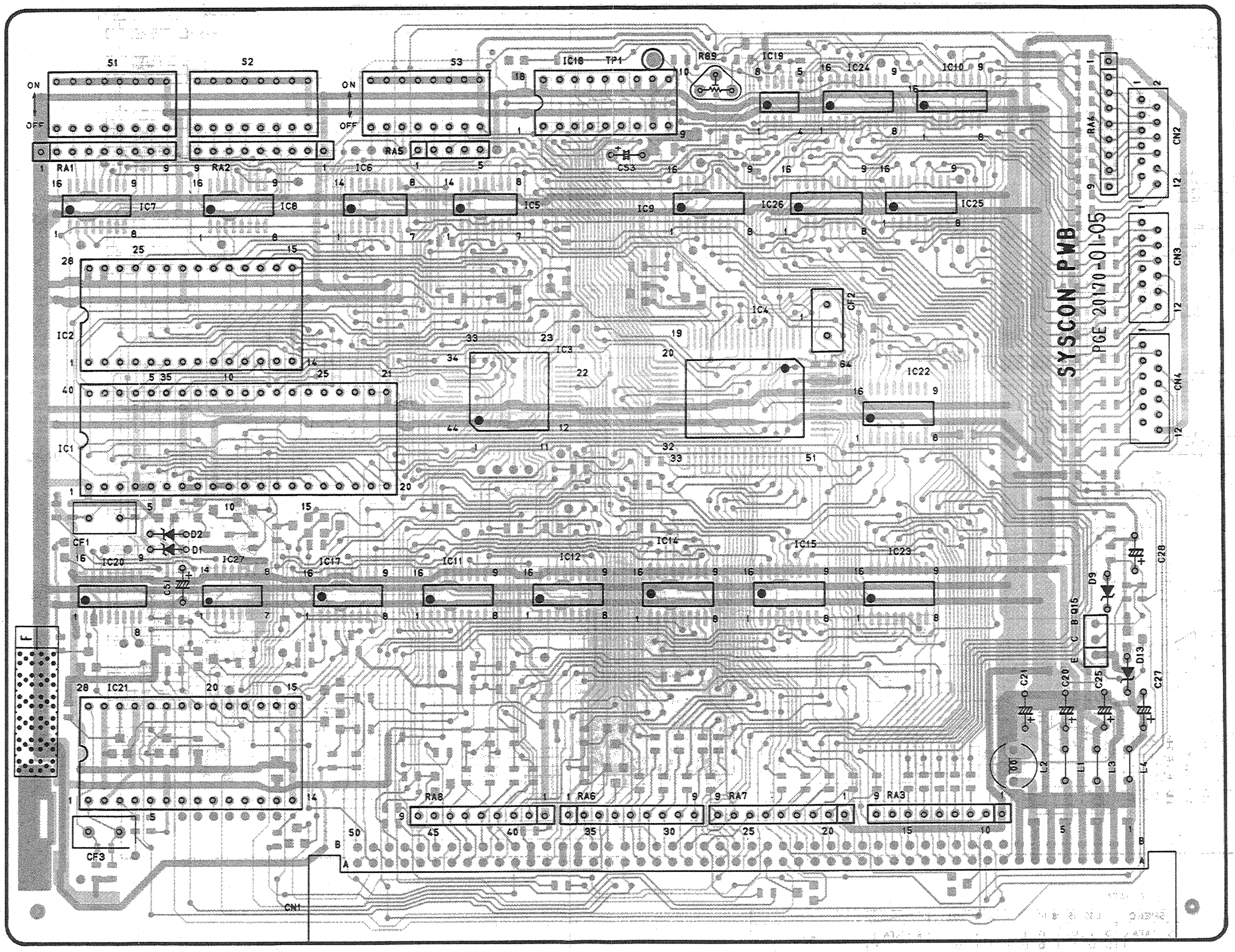
5

4

3

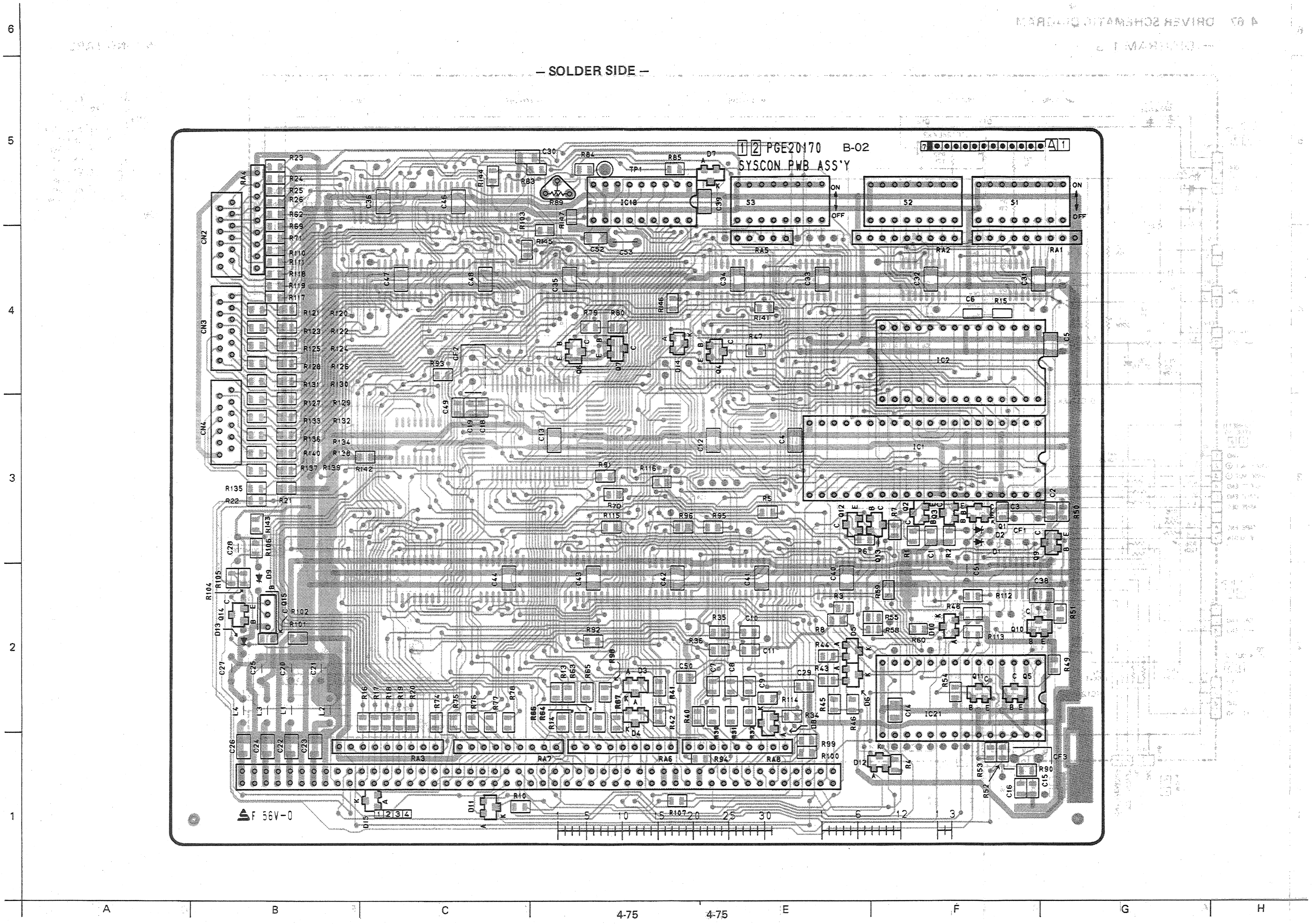
2

1


S1
S2
S3
ON
OFF
RA1
RA2
RA5
IC6
IC7
IC8
IC5
IC18
TP1
R89
IC19
IC24
IC10
CS3
IC9
IC26
IC25
RA4
CN2
CN3
CN4
SYSCON PWB
PGE 20170-01-05
IC2
IC3
IC4
CF2
IC22
IC1
CF1
D2
D1
IC20
IC27
IC17
IC11
IC12
IC14
IC15
IC23
C51
C28
D9
E C B Q15
D13
C21
C20
C25
C27
L2
L1
L3
L4
RA8
RA6
RA7
RA3
IC21
CF3
F
50
A
B
CN1

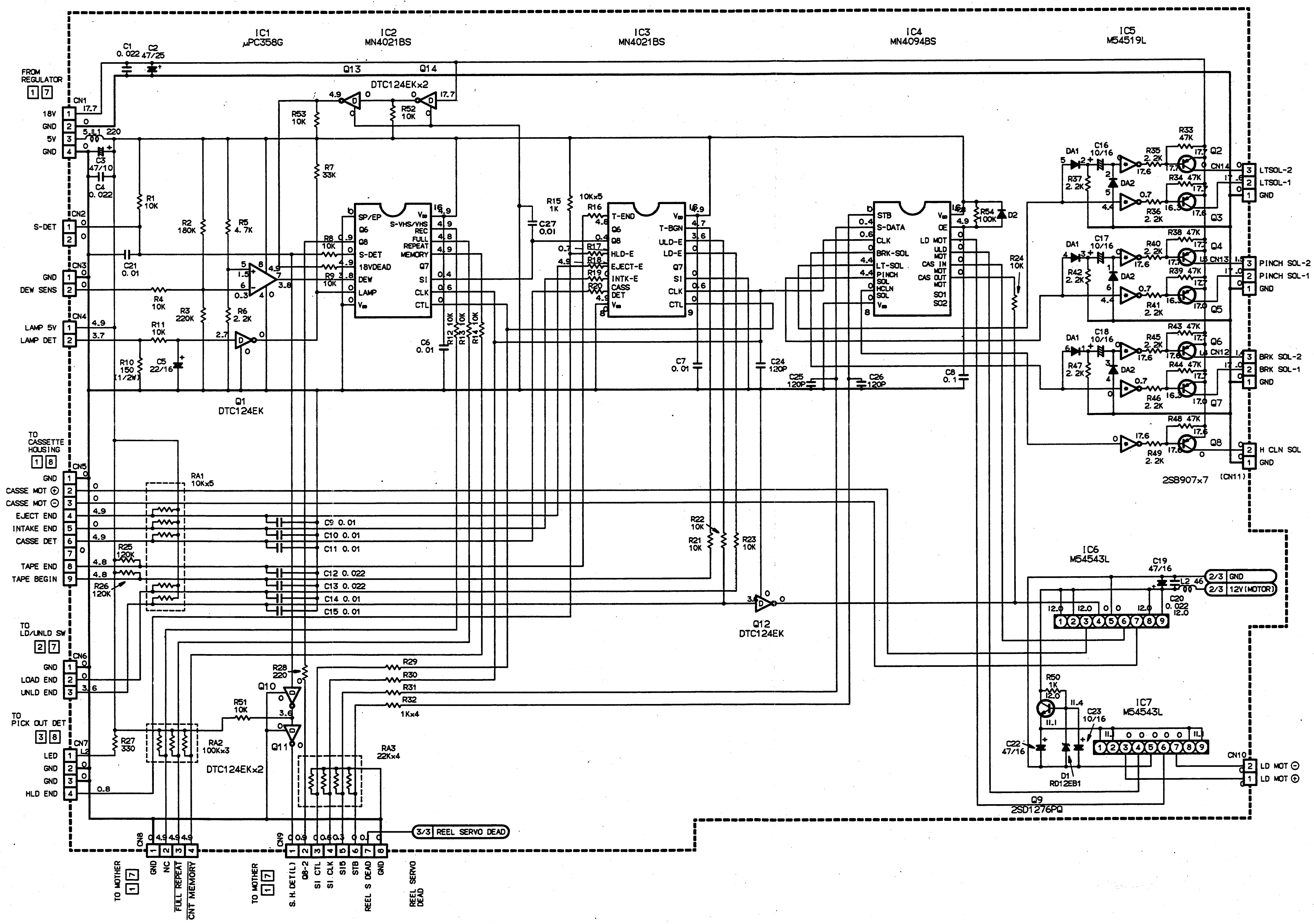
A B C D E F G H

– SOLDER SIDE –


1 2 PGE20170 B-02
SYSCON PWB ASS'Y
IC1
IC2
IC18
IC21
S1
S2
S3
ON
OFF
CN2
CN3
CN4
RA1
RA2
RA3
RA4
RA5
RA6
RA7
RA8
RA94
TP1
F 56V-0
1 2 3 4
1 5 10 15 20 25 30
6 12
1 3
6
5
4
3
2
1
A
B
C
4-75
4-75
E
F
G
H

4.67 DRIVER SCHEMATIC DIAGRAM

— DIAGRAM 1/3 —



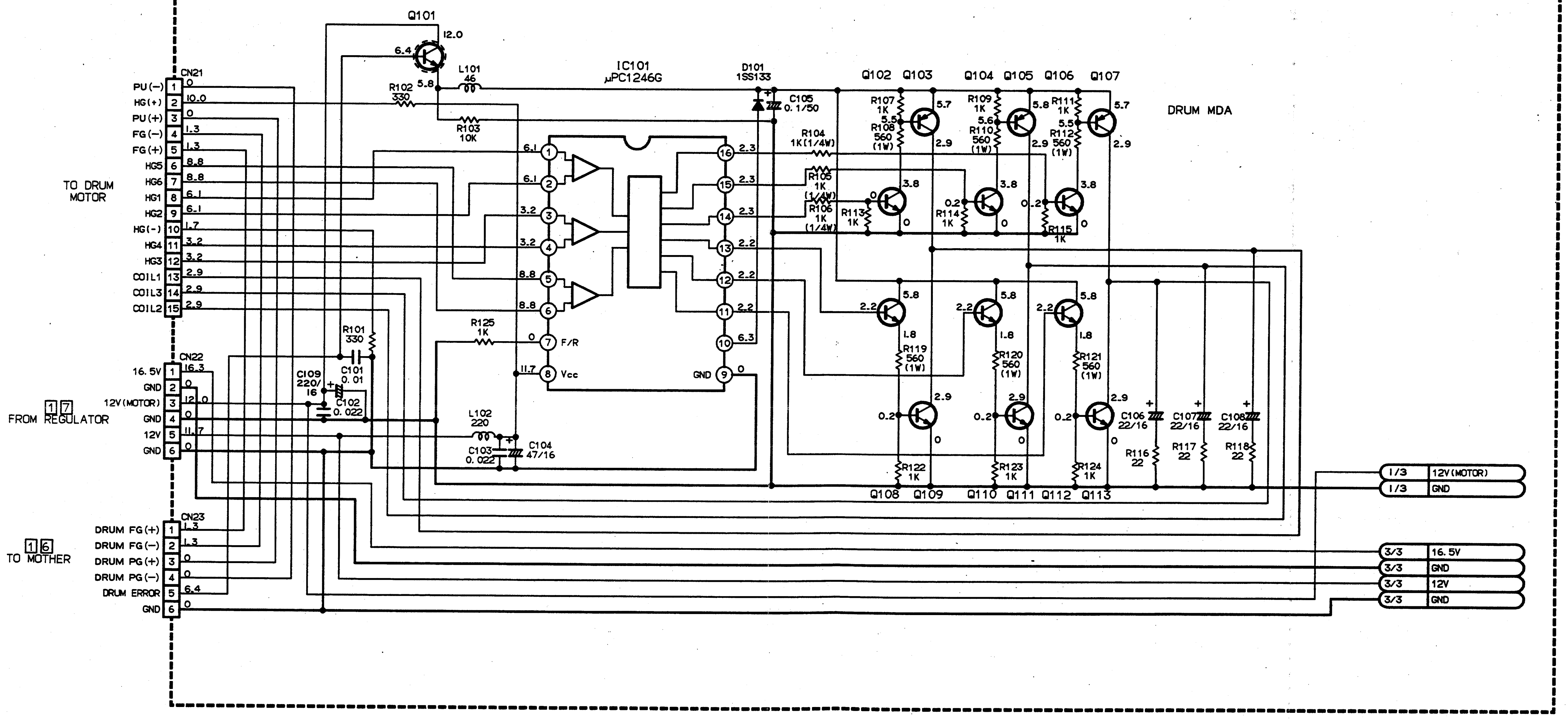
IC1 µPC358G
IC2 MN4021BS
IC3 MN4021BS
IC4 MN4094BS
IC5 M54519L
IC6 M54543L
IC7 M54543L
Q13 Q14 DTC124EKx2
Q1 DTC124EK
Q12 DTC124EK
Q10 Q11 DTC124EKx2
Q2–Q8 2SB907x7
Q9 2SD1276PQ
D1 RD12EB1
FROM REGULATOR 1 7
CN1 18V GND 5V GND
CN2 S-DET
CN3 GND DEW SENS
CN4 LAMP 5V LAMP DET
TO CASSETTE HOUSING 1 8
CN5 GND CASSE MOT ⊕ CASSE MOT ⊖ EJECT END INTAKE END CASSE DET TAPE END TAPE BEGIN
TO LD/UNLD SW 2 7
CN6 GND LOAD END UNLD END
TO PICK OUT DET 3 8
CN7 LED GND GND HLD END
RA1 10Kx5
RA2 100Kx3
RA3 22Kx4
1Kx4
CN14 LTSOL-2 LTSOL-1 GND
CN13 PINCH SOL-2 PINCH SOL-1 GND
CN12 BRK SOL-2 BRK SOL-1 GND
(CN11) H CLN SOL GND
CN10 LD MOT ⊖ LD MOT ⊕
2/3 GND
2/3 12V(MOTOR)
3/3 REEL SERVO DEAD
CN8 TO MOTHER 1 7 GND NC FULL REPEAT CNT MEMORY
CN9 TO MOTHER 1 7 S.H.DET(L) Q8-2 SI CTL SI CLK SI5 STB REEL S DEAD GND REEL SERVO DEAD

— WIRING TABLE —

CN8	3 ←	22	CN4-2
	4 ←	22	CN4-3
CN9	1 →	08	CN10-50
		01	CN1-18
	2 →	12	CN1-35B
	3 →	12	CN1-36
	4 →	12	CN1-37
	5 →	12	CN1-38B
	6 →	12	CN1-39
	7 →	12	CN1-40B

1 4

— DIAGRAM 2/3 — DRUM MDA SECTION


DRUM MDA
TO DRUM MOTOR
CN21
PU(−)
HG(+)
PU(+)
FG(−)
FG(+)
HG5
HG6
HG1
HG2
HG(−)
HG4
HG3
COIL1
COIL3
COIL2
17 FROM REGULATOR
CN22
16.5V
GND
12V(MOTOR)
GND
12V
GND
16 TO MOTHER
CN23
DRUM FG(+)
DRUM FG(−)
DRUM PG(+)
DRUM PG(−)
DRUM ERROR
GND
Q101
L101 46
R102 330
R103 10K
R101 330
C109 220/16
C101 0.01
C102 0.022
R125 1K
L102 220
C103 0.022
C104 47/16
IC101 μPC1246G
F/R
Vcc
GND
D101 1SS133
C105 0.1/50
Q102 Q103
Q104 Q105
Q106 Q107
R107 1K
R108 560 (1W)
R109 1K
R110 560 (1W)
R111 1K
R112 560 (1W)
R104 1K(1/4W)
R105 1K (1/4W)
R106 1K (1/4W)
R113 1K
R114 1K
R115 1K
R119 560 (1W)
R120 560 (1W)
R121 560 (1W)
R122 1K
R123 1K
R124 1K
C106 22/16
C107 22/16
C108 22/16
R116 22
R117 22
R118 22
Q108 Q109
Q110 Q111
Q112 Q113
1/3 12V(MOTOR)
1/3 GND
3/3 16.5V
3/3 GND
3/3 12V
3/3 GND

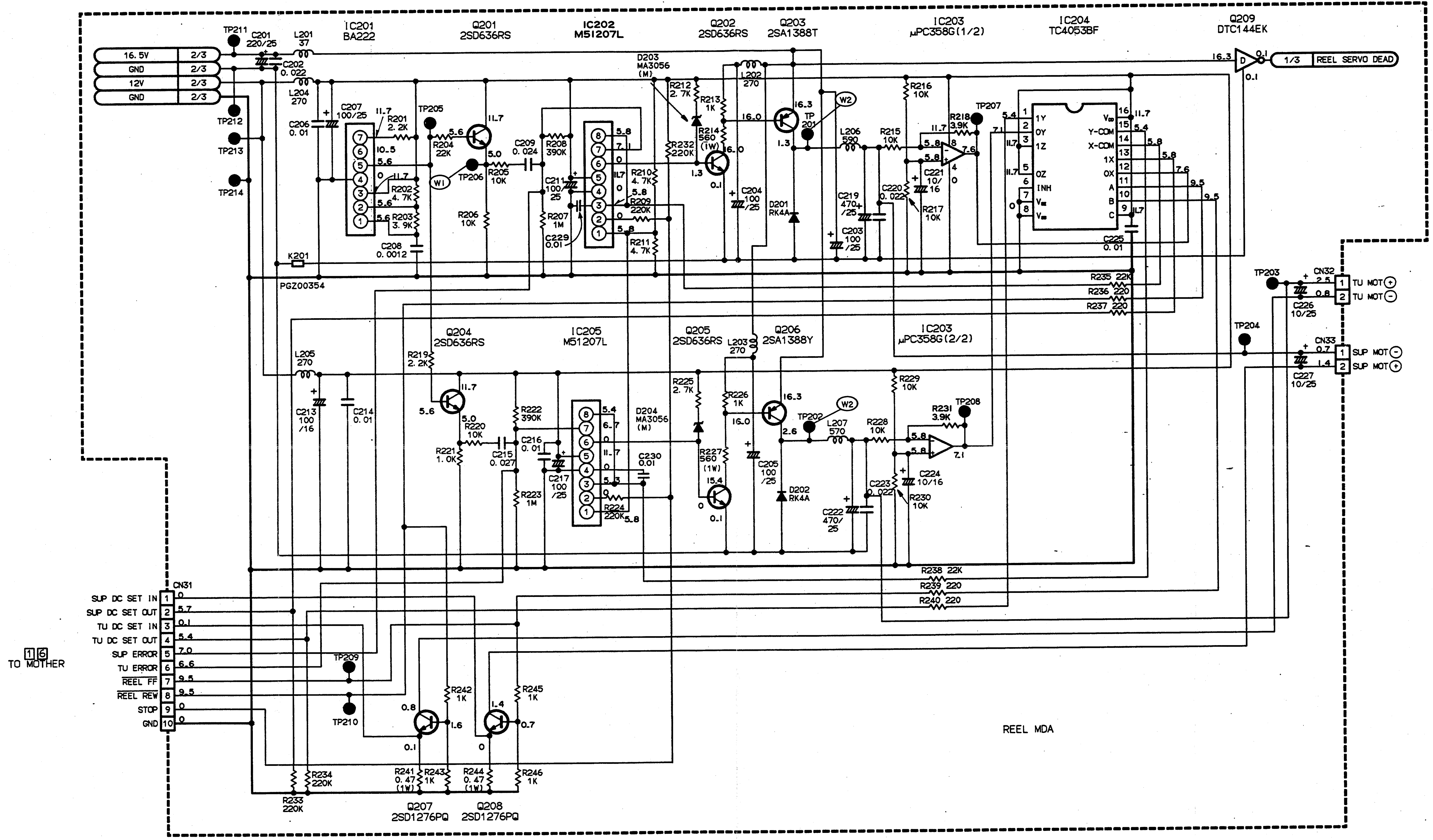
— WIRING TABLE —

CN23

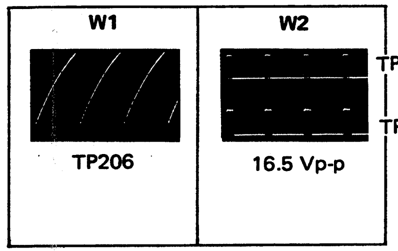
CN23			
1	→	10	CN1-48A
2	→	10	CN1-48B
3	→	10	CN1-49B
4	→	10	CN1-49A
5	←	10	CN1-50A
6	←	10	CN1-50B

14

— DIAGRAM 3/3 — REEL MDA SECTION



16.5V 2/3
GND 2/3
12V 2/3
GND 2/3
TP211
C201 220/25
L201 37
C202 0.022
L204 270
TP212
TP213
TP214
C206 0.01
C207 100/25
IC201 BA222
R201 2.2K
R202 4.7K
R203 3.9K
C208 0.0012
TP205
Q201 2SD636RS
R204 22K
R205 10K
R206 10K
TP206
W1
C209 0.024
R208 390K
C211 100 25
R207 1M
C229 0.01
IC202 M51207L
R209 220K
R210 4.7K
R211 4.7K
D203 MA3056 (M)
R212 2.7K
R213 1K
R214 560 (1W)
R232 220K
Q202 2SD636RS
L202 270
C204 100 /25
D201 RK4A
Q203 2SA1388T
TP 201
W2
L206 590
C219 470/25
C203 100 /25
R215 10K
C220 0.022
R216 10K
R217 10K
C221 10/16
R218 3.9K
TP207
IC203 μPC358G(1/2)
IC204 TC4053BF
1Y 0Y 1Z 0Z INH V_EE V_SS V_DD Y-COM X-COM 1X 0X A B C
C225 0.01
Q209 DTC144EK
1/3 REEL SERVO DEAD
K201
PGZ00354
R235 22K
R236 220
R237 220
TP203
CN32
C226 10/25
TU MOT(+)
TU MOT(−)
TP204
CN33
C227 10/25
SUP MOT(−)
SUP MOT(+)
L205 270
C213 100 /16
C214 0.01
Q204 2SD636RS
R219 2.2K
R220 10K
R221 1.0K
C215 0.027
C216 0.01
R222 390K
R223 1M
C217 100 /25
IC205 M51207L
R224 220K
C230 0.01
D204 MA3056 (M)
Q205 2SD636RS
L203 270
R225 2.7K
R226 1K
R227 560 (1W)
Q206 2SA1388Y
TP202
L207 570
C205 100 /25
D202 RK4A
C222 470/25
R228 10K
C223 0.022
R229 10K
R230 10K
R231 3.9K
C224 10/16
TP208
IC203 μPC358G(2/2)
R238 22K
R239 220
R240 220
CN31
SUP DC SET IN
SUP DC SET OUT
TU DC SET IN
TU DC SET OUT
SUP ERROR
TU ERROR
REEL FF
REEL REW
STOP
GND
16 TO MOTHER
TP209
TP210
R242 1K
R245 1K
R241 0.47 (1W)
R243 1K
R244 0.47 (1W)
R246 1K
R233 220K
R234 220K
Q207 2SD1276PQ
Q208 2SD1276PQ
REEL MDA

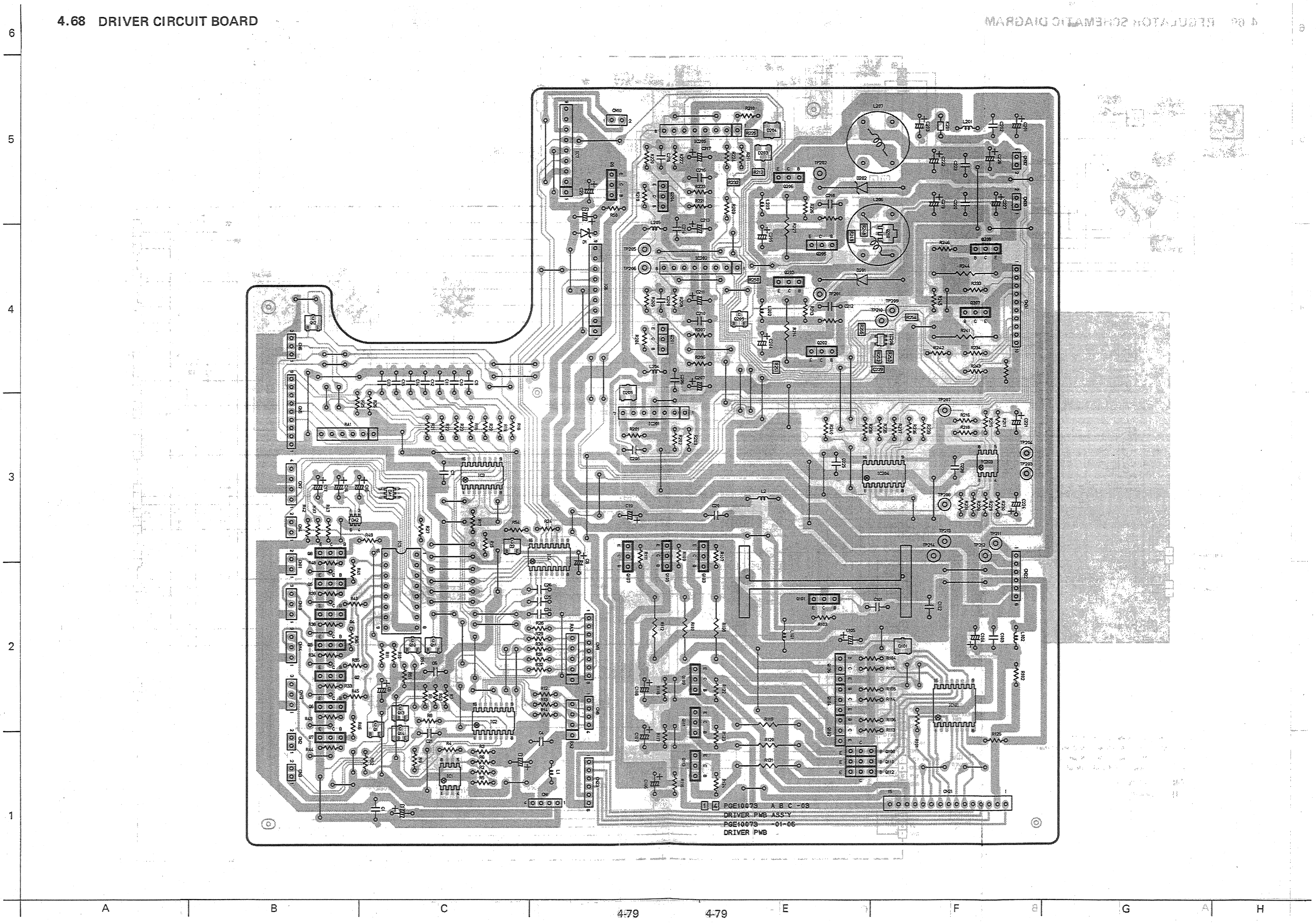


— WIRING TABLE —

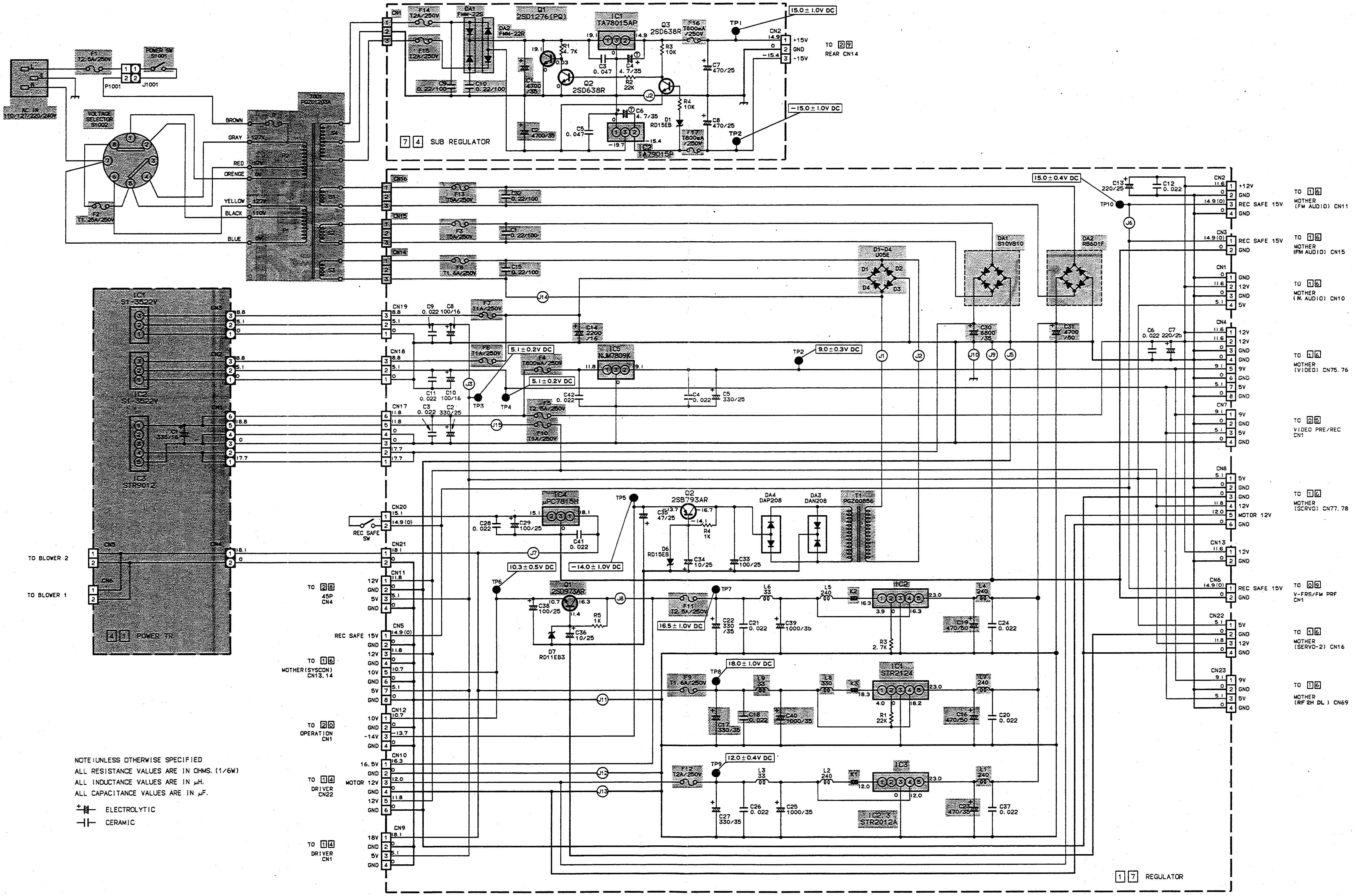
31-1	→	11	CN1-5A
31-2	←	11	CN1-5B
31-3	←	11	CN1-6A
31-4	←	11	CN1-6B
31-5	←	11	CN1-7A
31-6	←	11	CN1-7B
31-7	←	11	CN1-8A
31-8	←	11	CN1-8B
31-9	←	11	CN1-9A

14

4.68 DRIVER CIRCUIT BOARD


6
5
4
3
2
1
A
B
C
D
E
F
G
H
L207
L206
L201
D202
D201
IC201
IC202
IC203
IC204
IC101
IC1
IC2
IC3
TP201
TP202
TP203
TP204
TP205
TP206
TP207
TP208
TP209
TP210
TP211
TP212
TP213
TP214
Q101
C19
C20
L2
PGE10073 A B C -03
DRIVER PWB ASS'Y
PGE10073 -01-06
DRIVER PWB

4.69 REGULATOR SCHEMATIC DIAGRAM


5
4
3
2
1
AC IN 110/127/220/240V
F1 T2.5A/250V
POWER SW S1001
P1001
J1001
VOLTAGE SELECTOR S1002
F2 T1.25A/250V
BROWN
GRAY
RED
ORENGE
YELLOW
BLACK
BLUE
T001 PGZ01203A
CN1
F14 T2A/250V
F15 T2A/250V
DA1 FMM-22S
DA2 FMM-22R
C9 0.22/100
C10 0.22/100
Q1 2SD1276(PQ)
IC1 TA78015AP
Q2 2SD638R
Q3 2SD638R
R1 4.7K
C3 0.047
C4 4.7/35
R2 22K
R3 10K
R4 10K
F16 T800mA/250V
F17 T800mA/250V
C7 470/25
C8 470/25
C5 0.047
C6 4.7/35
D1 RD15EB
IC2 TA79015P
TP1
TP2
15.0±1.0V DC
−15.0±1.0V DC
CN2
+15V
GND
−15V
TO 29 REAR CN14
74 SUB REGULATOR
CN16
F13 T5A/250V
C32 0.22/100
CN15
F3 T5A/250V
C1 0.22/100
CN14
F8 T1.6A/250V
C15 0.22/100
IC1 SI-3522V
IC2 SI-3522V
IC3 STR9012
C1 330/16
41 POWER TR
TO BLOWER 2
TO BLOWER 1
CN5
CN6
CN19
CN18
CN17
C9 0.022
C8 100/16
C11 0.022
C10 100/16
C3 0.022
C2 330/25
F7 T1A/250V
F6 T1A/250V
F4 T800mA/250V
F5 T2.5A/250V
F10 T1A/250V
5.1±0.2V DC
C14 2200/16
IC5 NJM7809K
C42 0.022
C4 0.022
C5 330/25
TP2
9.0±0.3V DC
TP3
TP4
D1~D4 U05E
DA1 S10VB10
DA2 RB601F
C30 6800/35
C31 4700/50
15.0±0.4V DC
C13 220/25
C12 0.022
TP10
C6 0.022
C7 220/25
CN20
REC SAFE SW
C28 0.022
C29 100/25
IC4 µPC7815H
C41 0.022
TP5
Q2 2SB793AR
C35 47/25
R4 1K
D6 RD15EB
C34 10/25
C33 100/25
DA4 DAP208
DA3 DAN208
T1 PGZ00856
−14.0±1.0V DC
CN21
10.3±0.5V DC
TP6
Q1 2SD973AR
C38 100/25
R5 1K
D7 RD11EB3
C36 10/25
TP7
F11 T2.5A/250V
16.5±1.0V DC
C22 330/35
C21 0.022
C39 1000/35
L6 33
L5 240
K2
IC2
L4 240
C19 470/50
C24 0.022
R3 2.7K
TP8
18.0±1.0V DC
F9 T1.6A/250V
L9 33
L8 330
K3
IC1 STR2124
L7 240
C17 330/35
C18 0.022
C40 1000/35
R1 22K
C16 470/50
C20 0.022
TP9
12.0±0.4V DC
F12 T2A/250V
L3 33
L2 240
K1
IC3
L1 240
C27 330/35
C26 0.022
C25 1000/35
IC2, 3 STR2012A
C23 470/35
C37 0.022
17 REGULATOR
CN11
TO 28 45P CN4
12V GND 5V GND
CN5
TO 16 MOTHER(SYSCON) CN13, 14
REC SAFE 15V GND 12V GND 10V GND 5V GND
CN12
TO 20 OPERATION CN1
10V GND −14V GND
CN10
TO 14 DRIVER CN22
16.5V GND MOTOR 12V GND 12V GND
CN9
TO 14 DRIVER CN1
18V GND 5V GND
CN2
+12V GND REC SAFE 15V GND
TO 16 MOTHER (FM AUDIO) CN11
CN3
REC SAFE 15V GND
TO 16 MOTHER (FM AUDIO) CN15
CN1
GND 12V GND 5V
TO 16 MOTHER (N. AUDIO) CN10
CN4
12V 12V GND GND 9V GND 5V GND
TO 16 MOTHER (VIDEO) CN75, 76
CN7
9V GND 5V GND
TO 05 VIDEO PRE/REC CN1
CN8
5V GND GND 12V MOTOR 12V GND
TO 16 MOTHER (SERVO) CN77, 78
CN13
12V GND
CN6
REC SAFE 15V GND
TO 09 V-FRS/FM PRF CN1
CN22
5V GND 12V GND
TO 16 MOTHER (SERVO-2) CN16
CN23
9V GND 5V GND
TO 16 MOTHER (RF 2H DL) CN69

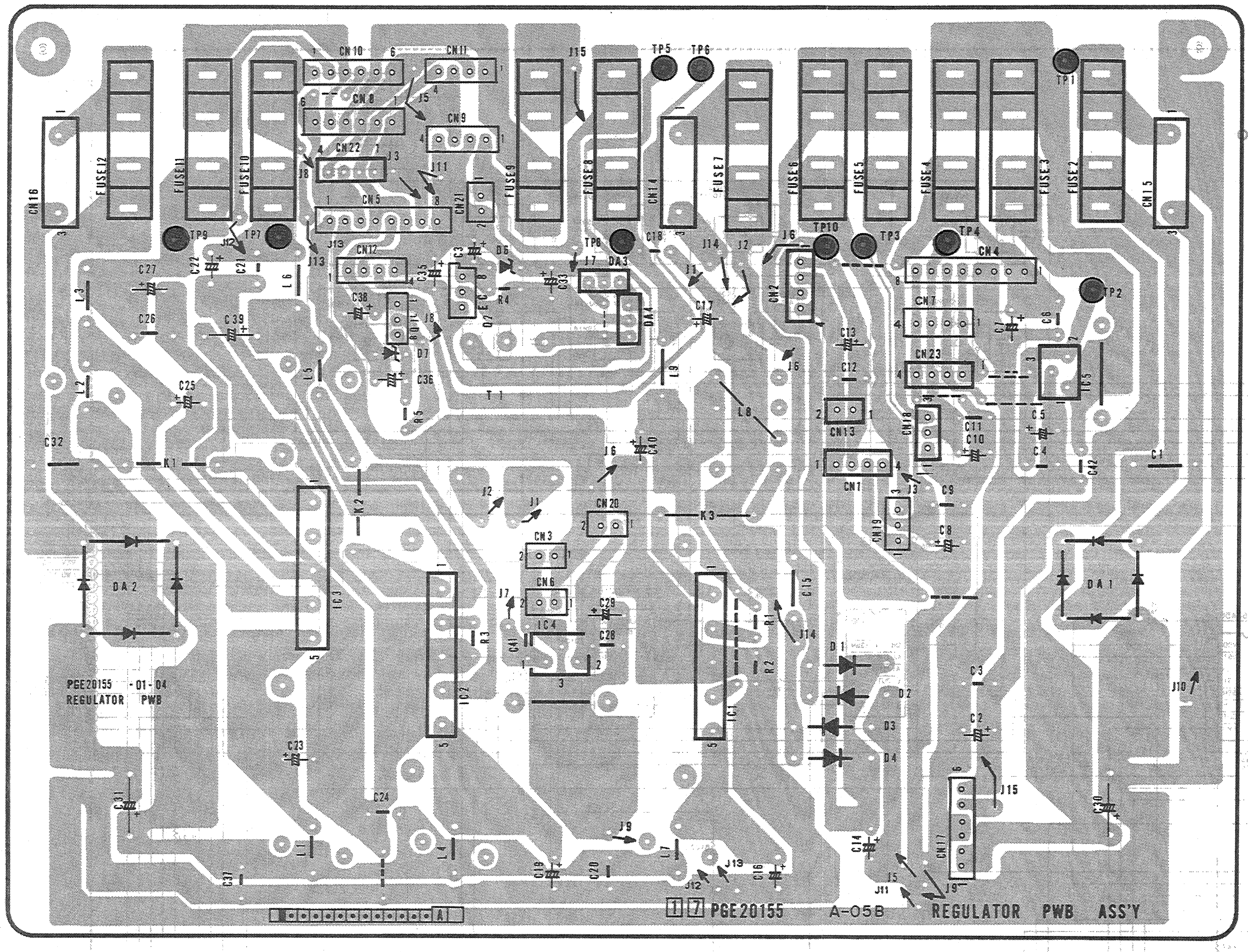
NOTE:UNLESS OTHERWISE SPECIFIED
ALL RESISTANCE VALUES ARE IN OHMS. (1/6W)
ALL INDUCTANCE VALUES ARE IN µH.
ALL CAPACITANCE VALUES ARE IN µF.

⊣⊢ ELECTROLYTIC
⊣⊢ CERAMIC

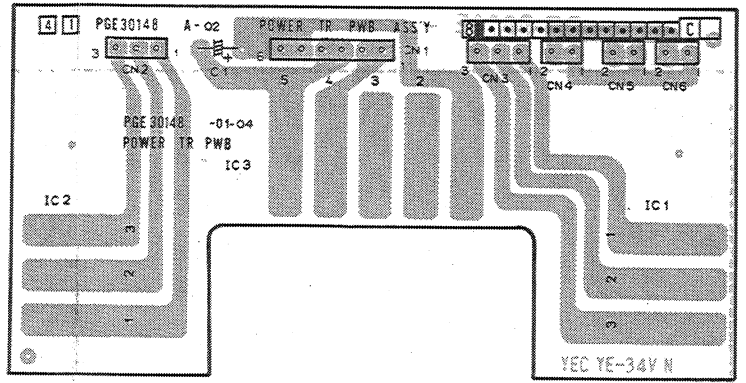
A
B
C
D
E
F
G
H

4.70 REGULATOR CIRCUIT BOARDS

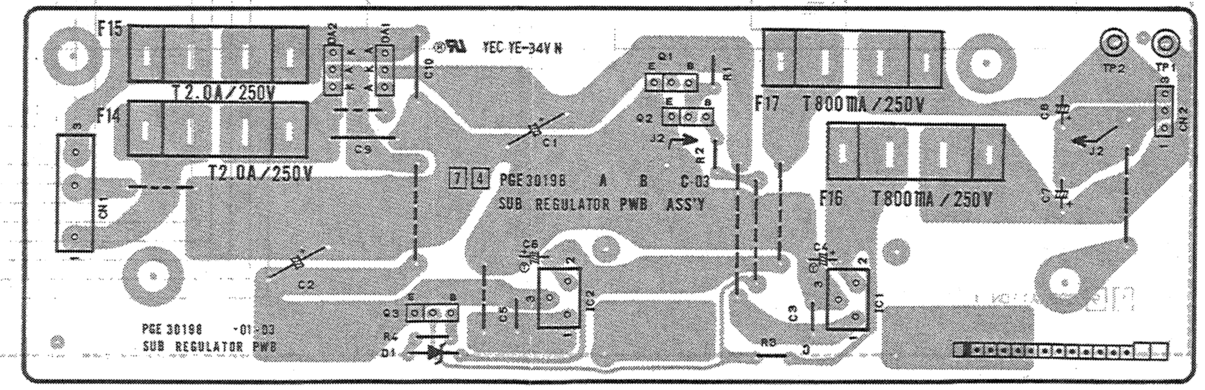
— REGULATOR —


CN10
CN11
CN8
CN9
CN22
CN5
CN21
CN12
CN2
CN4
CN7
CN23
CN13
CN18
CN1
CN19
CN20
CN3
CN6
CN17
CN14
CN15
CN16
FUSE12
FUSE11
FUSE10
FUSE9
FUSE8
FUSE7
FUSE6
FUSE5
FUSE4
FUSE3
FUSE2
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
DA1
DA2
DA3
DA4
IC1
IC2
IC3
IC4
IC5
T1
K1
K2
K3
L1
L2
L3
L4
L5
L6
L7
L8
L9
D1
D2
D3
D4
D6
D7
PGE20155 -01-04
REGULATOR PWB
1 7 PGE20155 A-05B REGULATOR PWB ASS'Y

— POWER TRANSISTOR —


4 1 PGE30148 A-02
POWER TR PWB ASS'Y
CN1
CN2
CN3
CN4
CN5
CN6
C1
PGE30148 -01-04
POWER TR PWB
IC1
IC2
IC3
YEC YE-34V N

— SUB REGULATOR —

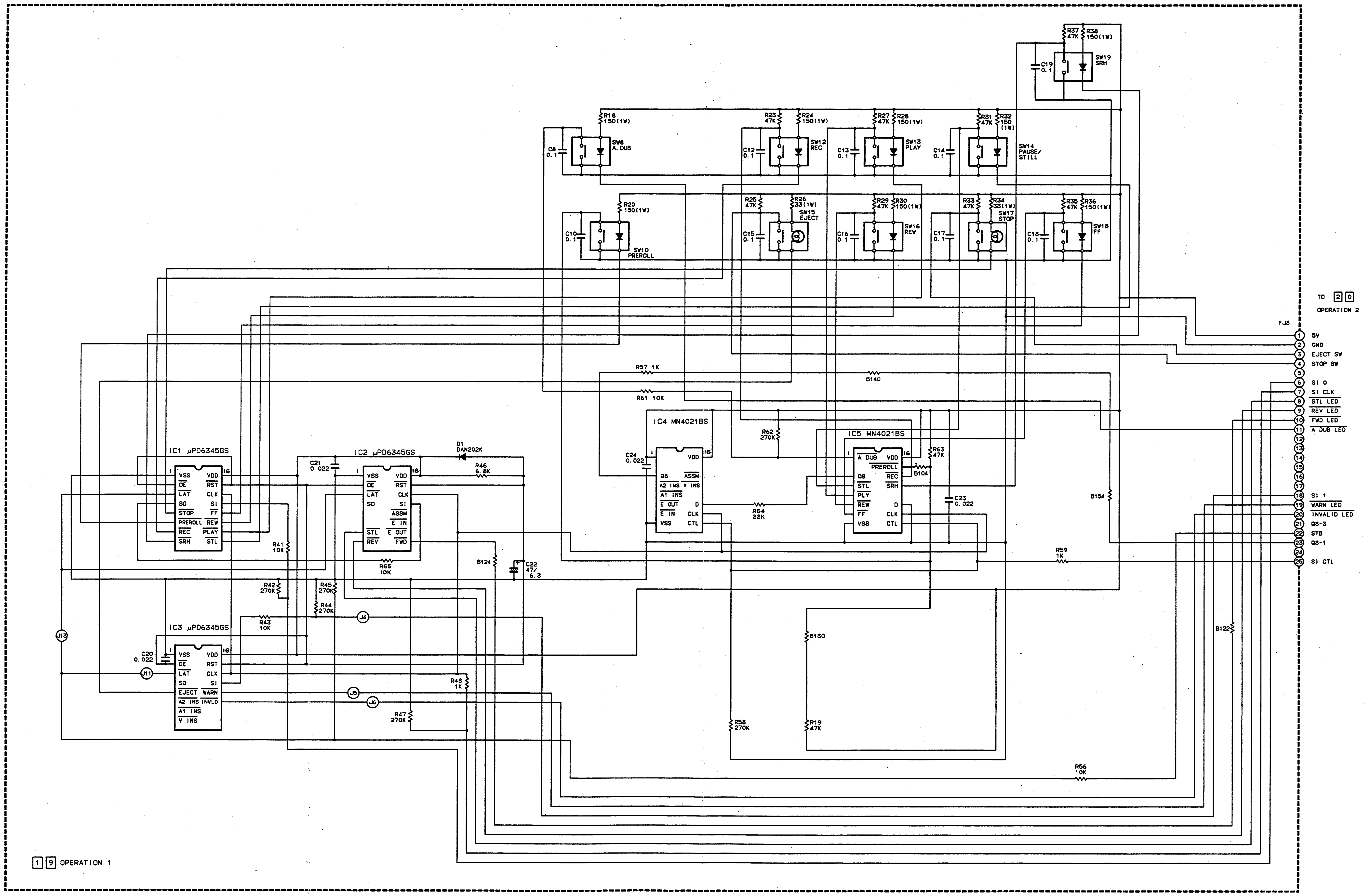

F15
F14
F17
F16
T2.0A/250V
T2.0A/250V
T800mA/250V
T800mA/250V
YEC YE-34V N
7 4 PGE30198 A B C-03
SUB REGULATOR PWB ASS'Y
PGE30198 -01-03
SUB REGULATOR PWB
CN1
CN2
TP1
TP2
IC1
IC2
Q1
Q2
Q3
D1
DA1
DA2

6
5
4
3
2
1

A B C E F G H

4.71 OPERATION 1 SCHEMATIC DIAGRAM

– BR-S611E –

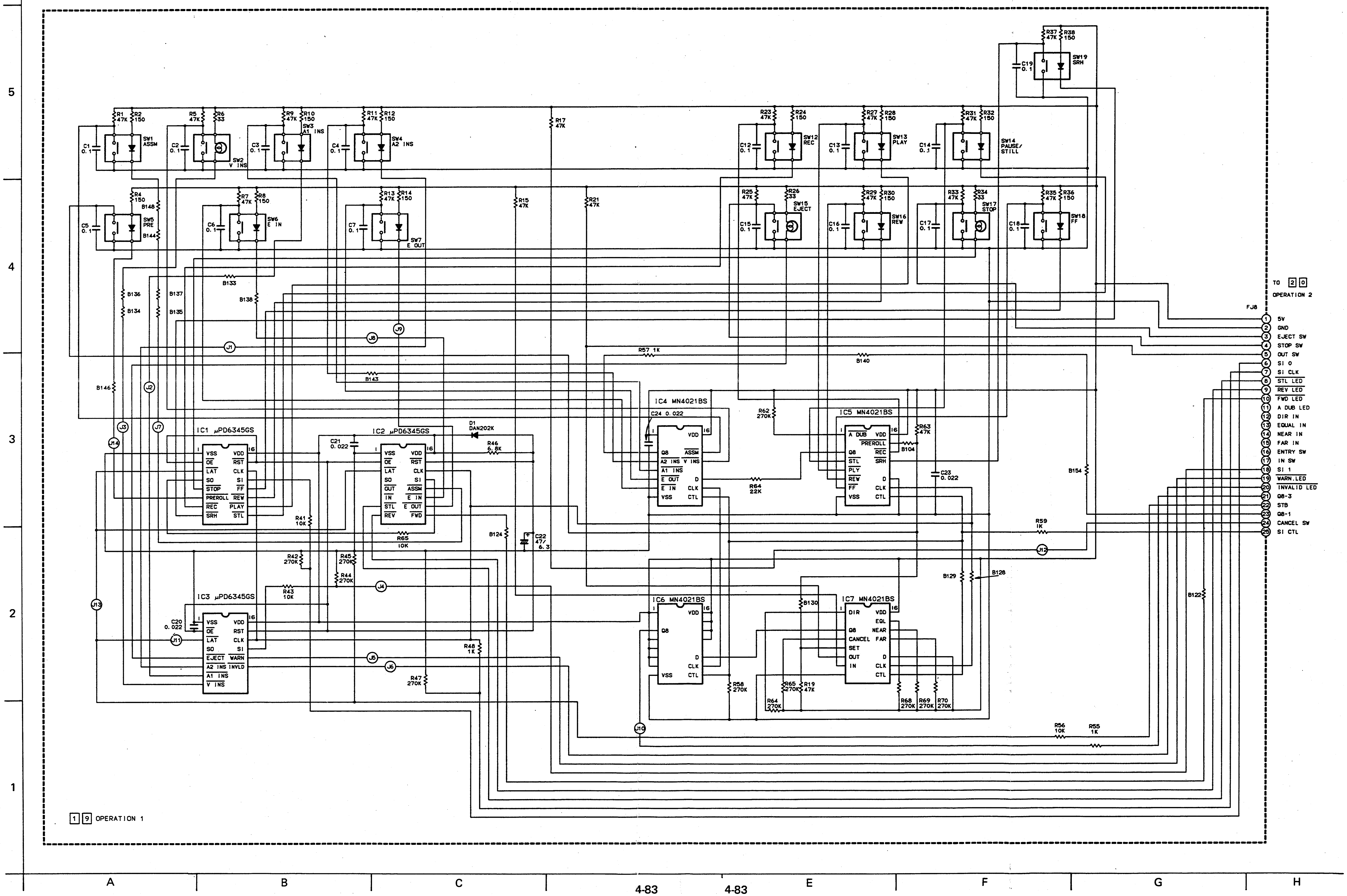


R37 47K
R38 150(1W)
C19 0.1
SW19 SRH
R18 150(1W)
C8 0.1
SW8 A. DUB
R23 47K
R24 150(1W)
C12 0.1
SW12 REC
R27 47K
R28 150(1W)
C13 0.1
SW13 PLAY
R31 47K
R32 150 (1W)
C14 0.1
SW14 PAUSE/ STILL
R20 150(1W)
C10 0.1
SW10 PREROLL
R25 47K
R26 33(1W)
SW15 EJECT
C15 0.1
R29 47K
R30 150(1W)
C16 0.1
SW16 REW
R33 47K
R34 33(1W)
SW17 STOP
C17 0.1
R35 47K
R36 150(1W)
C18 0.1
SW18 FF
TO 2 0 OPERATION 2
FJ8
1 5V
2 GND
3 EJECT SW
4 STOP SW
5
6 SI 0
7 SI CLK
8 STL LED
9 REV LED
10 FWD LED
11 A DUB LED
12
13
14
15
16
17
18 SI 1
19 WARN LED
20 INVALID LED
21 Q8-3
22 STB
23 Q8-1
24
25 SI CTL
R57 1K
R61 10K
B140
IC4 MN4021BS
IC5 MN4021BS
R62 270K
R63 47K
B104
C24 0.022
C23 0.022
R64 22K
B154
R59 1K
IC1 μPD6345GS
IC2 μPD6345GS
IC3 μPD6345GS
D1 DAN202K
R46 6.8K
C21 0.022
C22 47/ 6.3
B124
R41 10K
R65 10K
R42 270K
R45 270K
R44 270K
R43 10K
J4
J13
J11
J5
J6
C20 0.022
R48 1K
R47 270K
B130
B122
R58 270K
R19 47K
R56 10K
VSS
VDD
OE
RST
LAT
CLK
SO
SI
STOP
FF
PREROLL
REW
REC
PLAY
SRH
STL
ASSM
E IN
E OUT
REV
FWD
EJECT
WARN
A2 INS
INVLD
A1 INS
V INS
Q8
D
CTL
A DUB
1 9 OPERATION 1

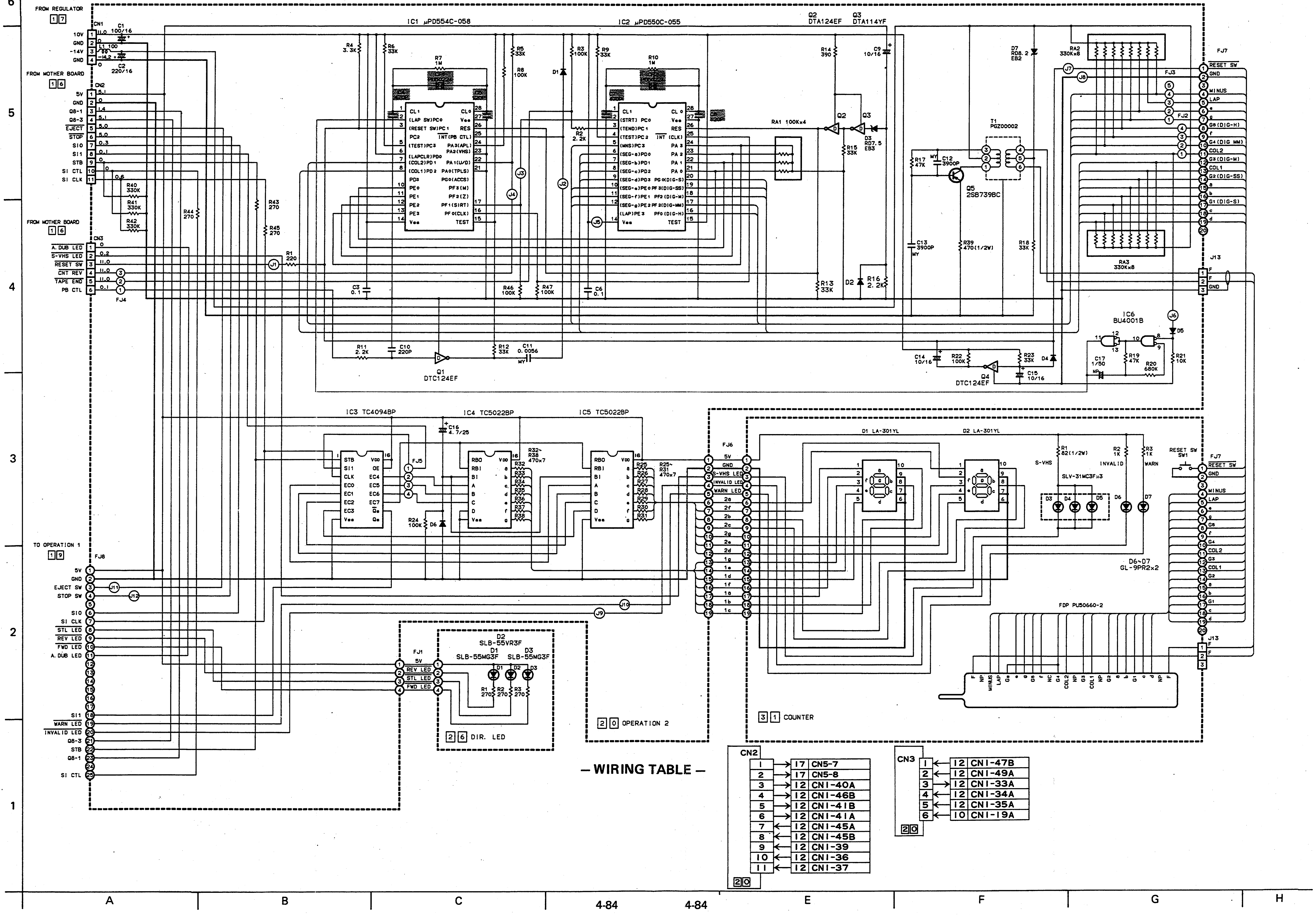
6
5
4
3
2
1

A B C 4-82 4-82 E F G H

– BR-S811E –


6
5
4
3
2
1
A
B
C
E
F
G
H
SW1 ASSM
SW2 V INS
SW3 A1 INS
SW4 A2 INS
SW5 PRE
SW6 E IN
SW7 E OUT
SW12 REC
SW13 PLAY
SW14 PAUSE/ STILL
SW15 EJECT
SW16 REW
SW17 STOP
SW18 FF
SW19 SRH
R1 47K
R2 150
R5 47K
R6 33
R9 47K
R10 150
R11 47K
R12 150
R4 150
R7 47K
R8 150
R13 47K
R14 150
R15 47K
R17 47K
R21 47K
R23 47K
R24 150
R25 47K
R26 33
R27 47K
R28 150
R29 47K
R30 150
R31 47K
R32 150
R33 47K
R34 33
R35 47K
R36 150
R37 47K
R38 150
C1 0.1
C2 0.1
C3 0.1
C4 0.1
C5 0.1
C6 0.1
C7 0.1
C12 0.1
C13 0.1
C14 0.1
C15 0.1
C16 0.1
C17 0.1
C18 0.1
C19 0.1
IC1 μPD6345GS
IC2 μPD6345GS
IC3 μPD6345GS
IC4 MN4021BS
IC5 MN4021BS
IC6 MN4021BS
IC7 MN4021BS
VSS
VDD
OE
RST
LAT
CLK
SO
SI
STOP
FF
PREROLL
REW
REC
PLAY
SRH
STL
OUT
ASSM
IN
E IN
E OUT
REV
FWD
EJECT
WARN
A2 INS
INVLD
A1 INS
V INS
Q8
A DUB
STL
PLY
D
CTL
DIR
EQL
NEAR
CANCEL
FAR
SET
D1 DAN202K
R46 6.8K
C21 0.022
C20 0.022
C22 47/6.3
C23 0.022
C24 0.022
R41 10K
R42 270K
R43 10K
R44 270K
R45 270K
R47 270K
R48 1K
R65 10K
R57 1K
R62 270K
R63 47K
R64 22K
R58 270K
R59 1K
R65 270K
R19 47K
R64 270K
R68 270K
R69 270K
R70 270K
R56 10K
R55 1K
B104
B122
B124
B128
B129
B130
B133
B134
B135
B136
B137
B138
B140
B143
B144
B146
B148
B154
J1
J2
J3
J4
J5
J6
J7
J8
J9
J10
J11
J12
J13
J14
TO 2 0 OPERATION 2
FJ8
① 5V
② GND
③ EJECT SW
④ STOP SW
⑤ OUT SW
⑥ SI 0
⑦ SI CLK
⑧ STL LED
⑨ REV LED
⑩ FWD LED
⑪ A DUB LED
⑫ DIR IN
⑬ EQUAL IN
⑭ NEAR IN
⑮ FAR IN
⑯ ENTRY SW
⑰ IN SW
⑱ SI 1
⑲ WARN.LED
⑳ INVALID LED
㉑ Q8-3
㉒ STB
㉓ Q8-1
㉔ CANCEL SW
㉕ SI CTL
1 9 OPERATION 1

4.72 OPERATION 2 SCHEMATIC DIAGRAM


FROM REGULATOR 17
CN1
10V
GND
-14V
GND
FROM MOTHER BOARD 16
CN2
5V
GND
Q8-1
Q8-3
EJECT
STOP
SI0
SI1
STB
SI CTL
SI CLK
FROM MOTHER BOARD 16
CN3
A. DUB LED
S-VHS LED
RESET SW
CNT REV
TAPE END
PB CTL
IC1 μPD554C-058
IC2 μPD550C-055
Q2 DTA124EF
Q3 DTA114YF
Q1 DTC124EF
Q4 DTC124EF
Q5 2SB739BC
T1 PGZ00002
RA1 100K×4
RA2 330K×8
RA3 330K×8
IC6 BU4001B
IC3 TC4094BP
IC4 TC5022BP
IC5 TC5022BP
D1 LA-301YL
D2 LA-301YL
SLV-31MC3F×3
D6~D7 GL-9PR2×2
FDP PU50660-2
D2 SLB-55VR3F
D1 SLB-55MG3F
D3 SLB-55MG3F
TO OPERATION 1 19
FJ8
5V
GND
EJECT SW
STOP SW
SI0
SI CLK
STL LED
REV LED
FWD LED
A. DUB LED
SI1
WARN LED
INVALID LED
Q8-3
STB
Q8-1
SI CTL
FJ7
RESET SW
GND
MINUS
LAP
J13
26 DIR. LED
20 OPERATION 2
31 COUNTER
A
B
C
D
E
F
G
H
1
2
3
4
5
6

– WIRING TABLE –

CN2 20

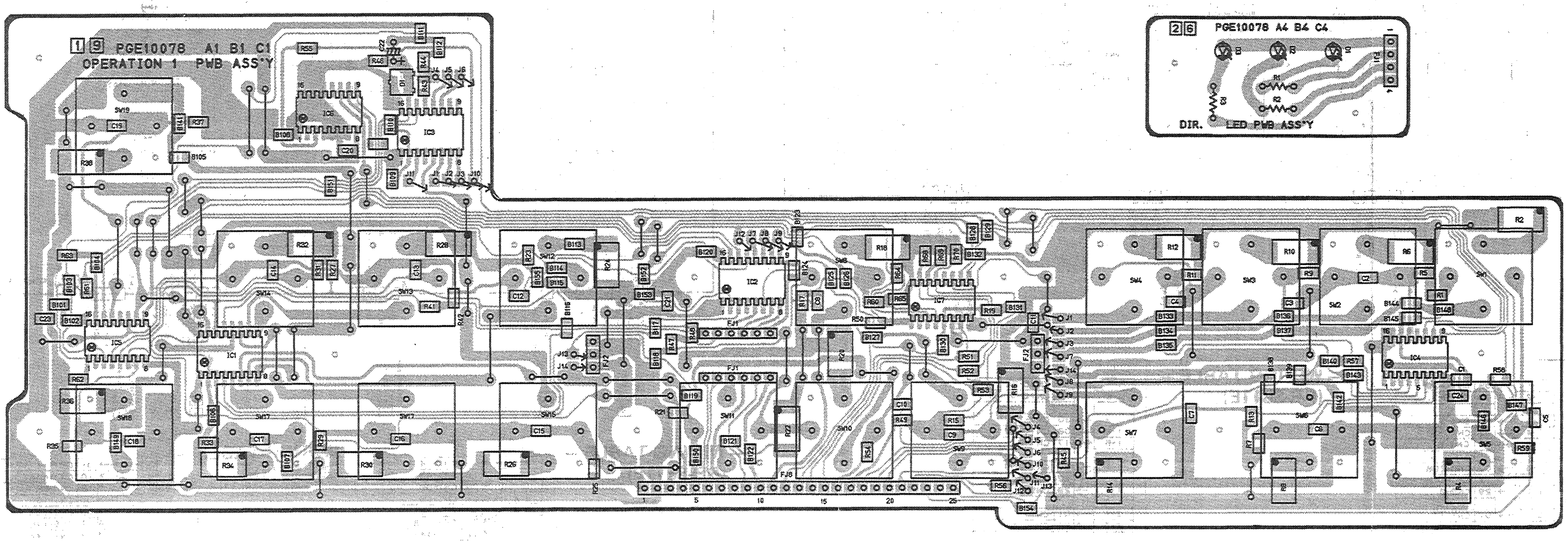
CN2			
1	→	17	CN5-7
2	→	17	CN5-8
3	→	12	CN1-40A
4	→	12	CN1-46B
5	→	12	CN1-41B
6	→	12	CN1-41A
7	←	12	CN1-45A
8	←	12	CN1-45B
9	←	12	CN1-39
10	←	12	CN1-36
11	←	12	CN1-37

CN3 20

CN3			
1	←	12	CN1-47B
2	←	12	CN1-49A
3	→	12	CN1-33A
4	←	12	CN1-34A
5	←	12	CN1-35A
6	←	10	CN1-19A

4.73 OPERATION CIRCUIT BOARDS

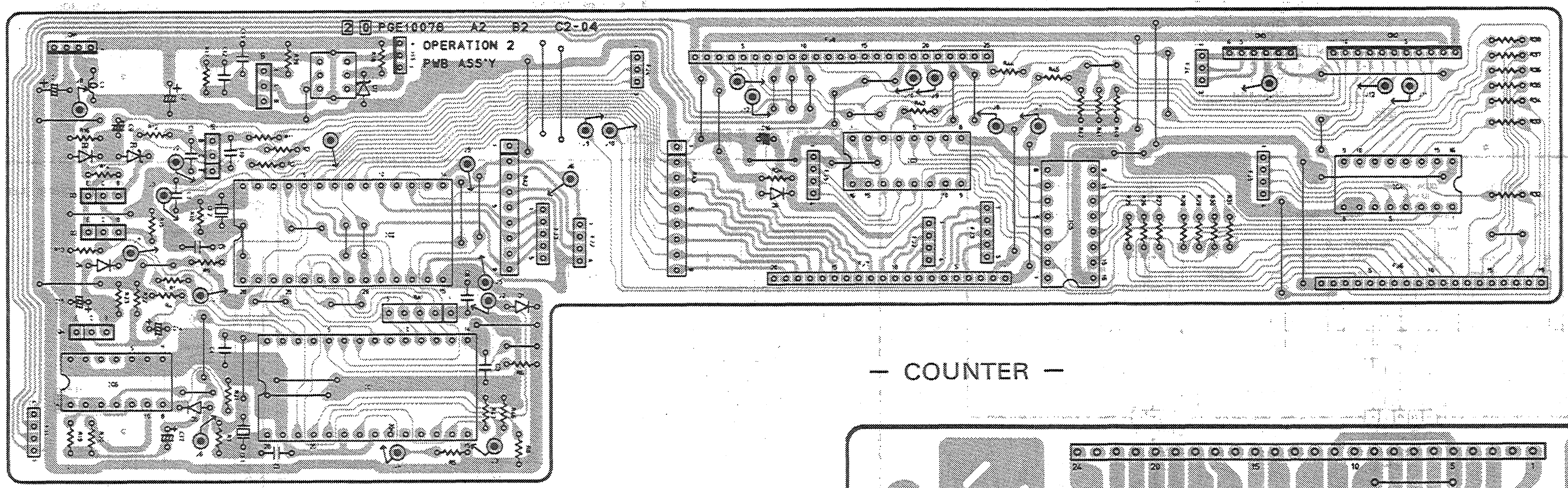
— OPERATION 1 —


1 9 PGE10078 A1 B1 C1
OPERATION 1 PWB ASS'Y

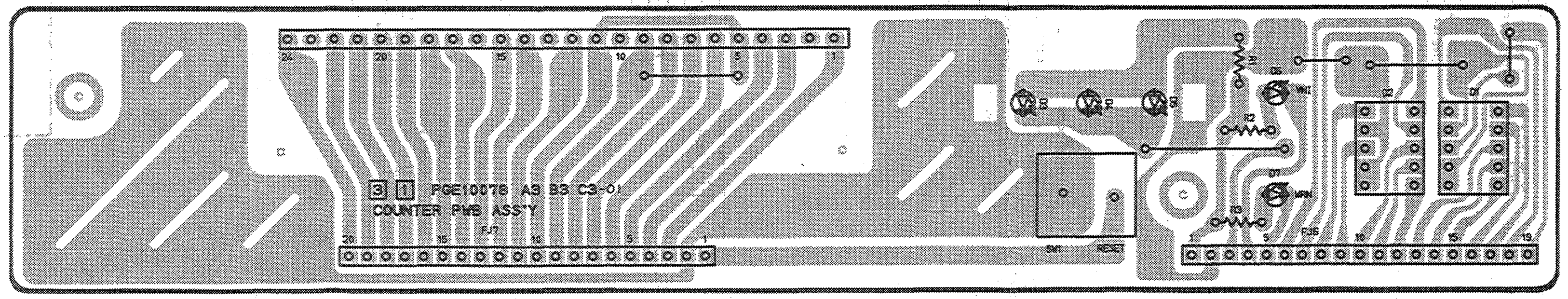
— DIRECTION LED —

2 6 PGE10078 A4 B4 C4
DIR. LED PWB ASS'Y

— OPERATION 2 —

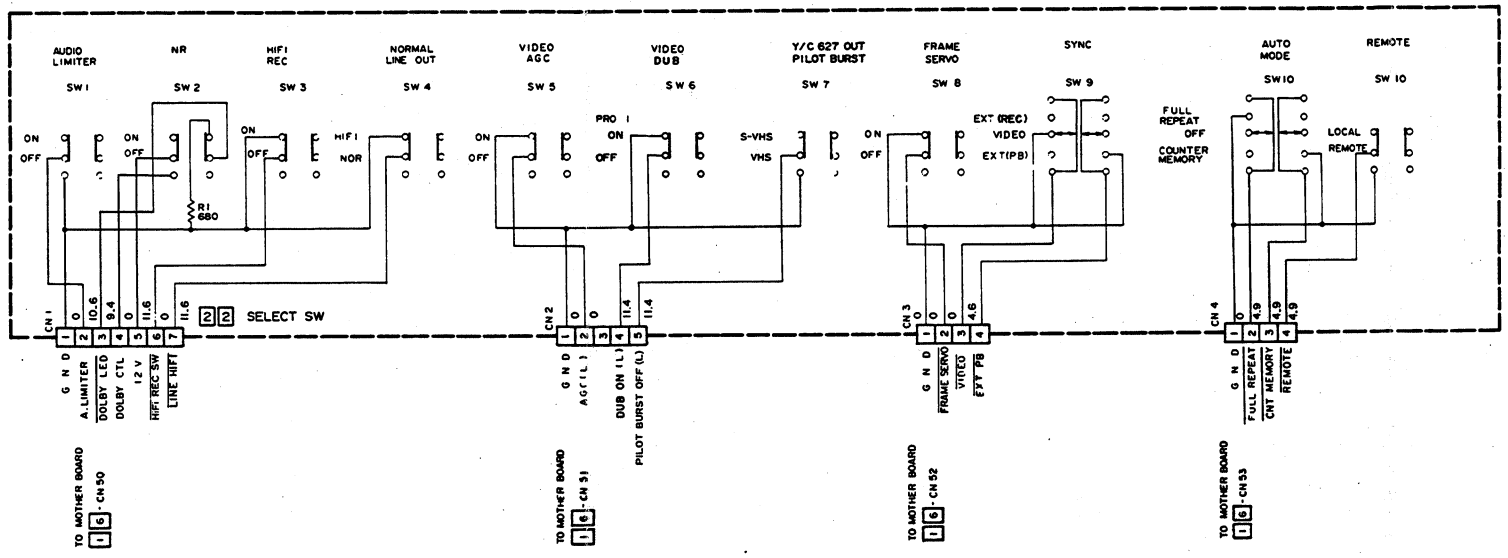

2 0 PGE10078 A2 B2 C2-04
OPERATION 2
PWB ASS'Y

— COUNTER —

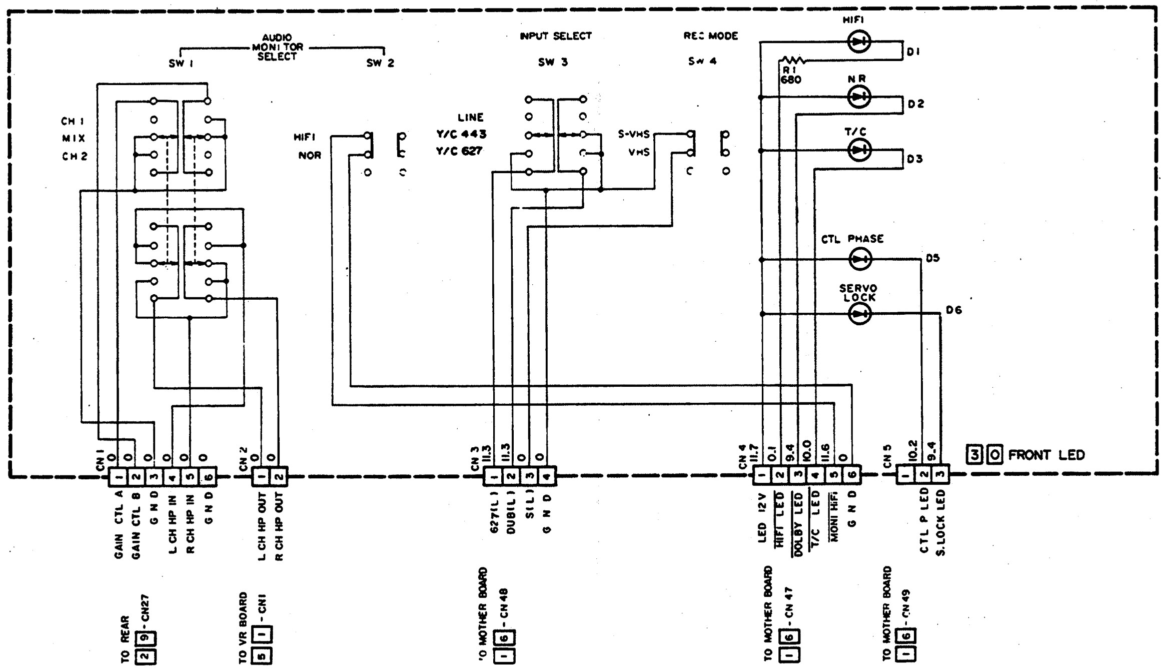

3 1 PGE10078 A3 B3 C3-01
COUNTER PWB ASS'Y
RESET

4.74 SELECT SWITCH/FRONT LED SCHEMATIC DIAGRAMS

– BR-S611E SELECT SWITCH –


AUDIO LIMITER
SW 1
NR
SW 2
HIFI REC
SW 3
NORMAL LINE OUT
SW 4
VIDEO AGC
SW 5
VIDEO DUB
SW 6
Y/C 627 OUT PILOT BURST
SW 7
FRAME SERVO
SW 8
SYNC
SW 9
AUTO MODE
SW10
REMOTE
SW 10
ON
OFF
HIFI
NOR
PRO I
S-VHS
VHS
EXT (REC)
VIDEO
EXT(PB)
FULL REPEAT
OFF
COUNTER MEMORY
LOCAL
REMOTE
R1 680
22 SELECT SW
CN 1
G N D
A.LIMITER
DOLBY LED
DOLBY CTL
12 V
HIFI REC SW
LINE HIFI
CN 2
AGC(L)
DUB ON (L)
PILOT BURST OFF (L)
CN 3
FRAME SERVO
VIDEO
EXT PB
CN 4
FULL REPEAT
CNT MEMORY
REMOTE
TO MOTHER BOARD 16 - CN 50
TO MOTHER BOARD 16 - CN 51
TO MOTHER BOARD 16 - CN 52
TO MOTHER BOARD 16 - CN 53

– BR-S611E FRONT LED –


AUDIO MONITOR SELECT
SW 1
SW 2
INPUT SELECT
SW 3
REC MODE
SW 4
CH 1
MIX
CH 2
HIFI
NOR
LINE
Y/C 443
Y/C 627
S-VHS
VHS
R1 680
HIFI
D1
NR
D2
T/C
D3
CTL PHASE
D5
SERVO LOCK
D6
30 FRONT LED
CN 1
GAIN CTL A
GAIN CTL B
G N D
L CH HP IN
R CH HP IN
CN 2
L CH HP OUT
R CH HP OUT
CN 3
627(L)
DUB(L)
S(L)
G N D
CN 4
LED 12V
HIFI LED
DOLBY LED
T/C LED
MONI HIFI
G N D
CN 5
CTL P LED
S.LOCK LED
TO REAR 29 - CN27
TO VR BOARD 51 - CN1
TO MOTHER BOARD 16 - CN 48
TO MOTHER BOARD 16 - CN 47
TO MOTHER BOARD 16 - CN 49

– WIRING TABLE – (BR-S611E)

1-1	→	08	CN10-28
1-2	→	08	CN10-31,32
1-3	→	30	CN4-3
1-4	→	08	CN10-30
1-5	←	17	CN1-2
1-6	→	07	CN5-20B
	↘	12	CN1-44B
1-7	→	29	CN9-3
2-1	→	01	CN1-17
2-2	→	01	CN1-15
2-4	→	01	CN1-12
2-5	→	03	CN1-39
3-1	→	10	CN1-41A
3-2	→	36	CN1-6B
3-3	→	10	CN1-42A
	↘	12	CN1-42A
3-4	→	10	CN1-42B
4-1	→	12	CN1-8
4-2	→	14	CN8-3
4-3	→	14	CN8-4
4-4	→	12	CN1-42B

22

– WIRING TABLE – (BR-S811E)

1-1	→	08	CN10-28
1-2	→	08	CN10-31,32
1-3	→	30	CN4-3
1-4	→	08	CN10-30
1-5	←	17	CN1-2
1-6	→	07	CN5-20B
	↘	12	CN1-44B
1-7	→	29	CN9-3
2-1	→	01	CN1-17
2-2	→	01	CN1-15
2-4	→	01	CN1-12
2-5	→	03	CN1-39
3-1	→	10	CN1-41A
3-2	→	36	CN1-6B
3-3	→	10	CN1-42A
	↘	12	CN1-42A
3-4	→	10	CN1-42B
3-5	→	10	CN1-46A
	↘	36	CN1-6A
4-1	→	12	CN1-8
4-2	→	14	CN8-3
4-3	→	14	CN8-4
4-4	→	12	CN1-42B

22

– WIRING TABLE – (BR-S611E)

3-1	→	01	CN1-14
	↘	10	CN1-45A
	↘	36	CN1-8B
3-2	→	01	CN1-16
3-3	→	02	CN2-32A
	↘	07	CN5-17B
	↘	12	CN1-44A
4-1	←	11	CN1-27A
4-2	←	12	CN1-49B
4-3	←	22	CN1-3
4-4	←	08	CN10-29AB
4-5	→	30	CN4-5
5-2	←	10	CN1-30B
5-3	←	36	CN1-5B

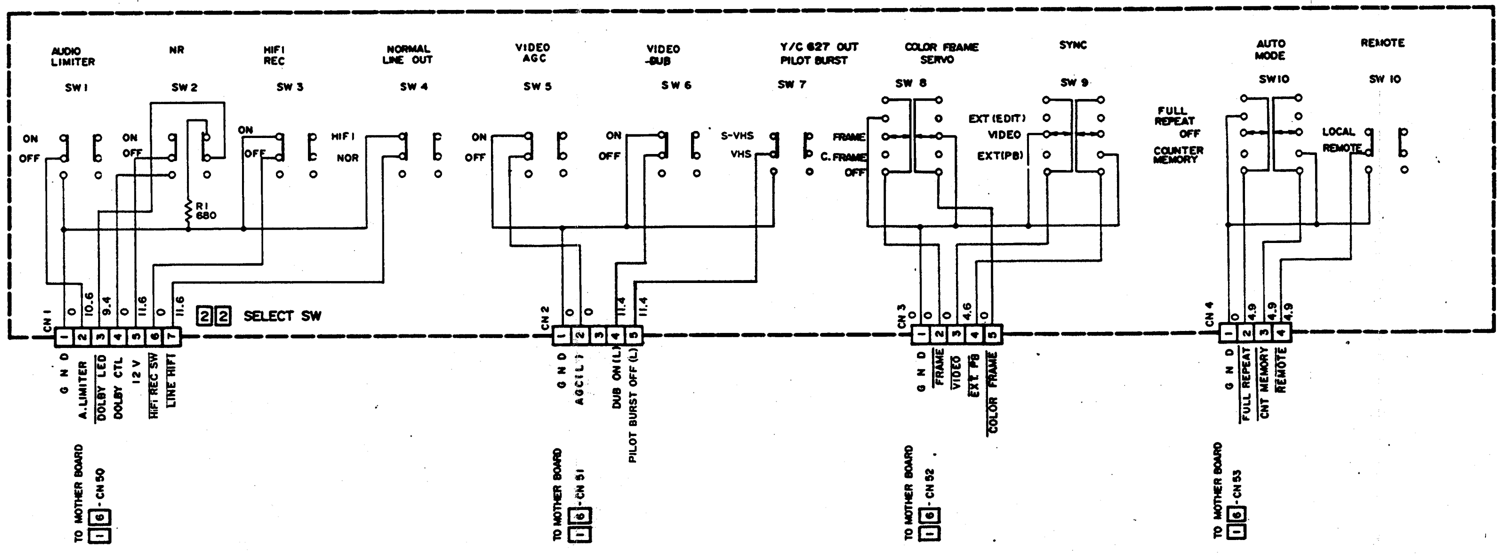
30

– WIRING TABLE – (BR-S811E)

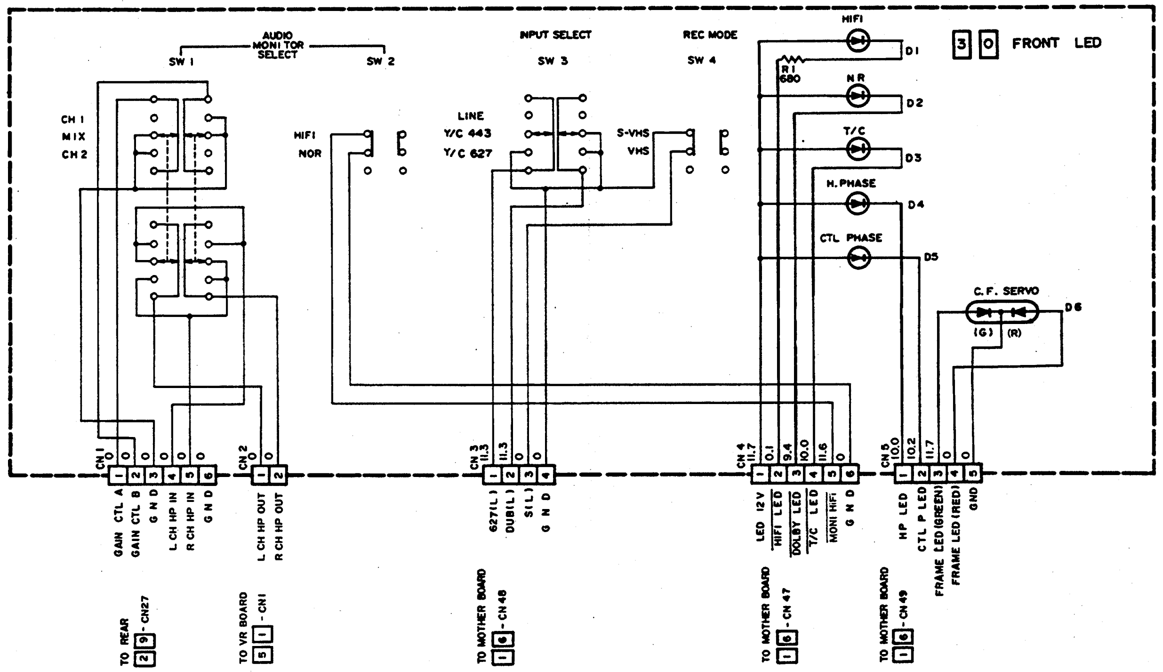
3-1	→	01	CN1-14
	↘	10	CN1-45A
	↘	36	CN1-8B
3-2	→	01	CN1-16
3-3	→	02	CN2-32A
	↘	07	CN5-17B
	↘	12	CN1-44A
4-1	←	11	CN1-27A
4-2	←	12	CN1-49B
4-3	←	22	CN1-3
4-4	←	08	CN10-29AB
4-5	→	30	CN4-5
5-1	←	36	CN1-27B
5-2	←	10	CN1-30B
5-3	←	36	CN1-5B
5-4	←	36	CN1-5A
5-5	←	36	CN1-4B

30

– BR-S811E SELECT SWITCH –

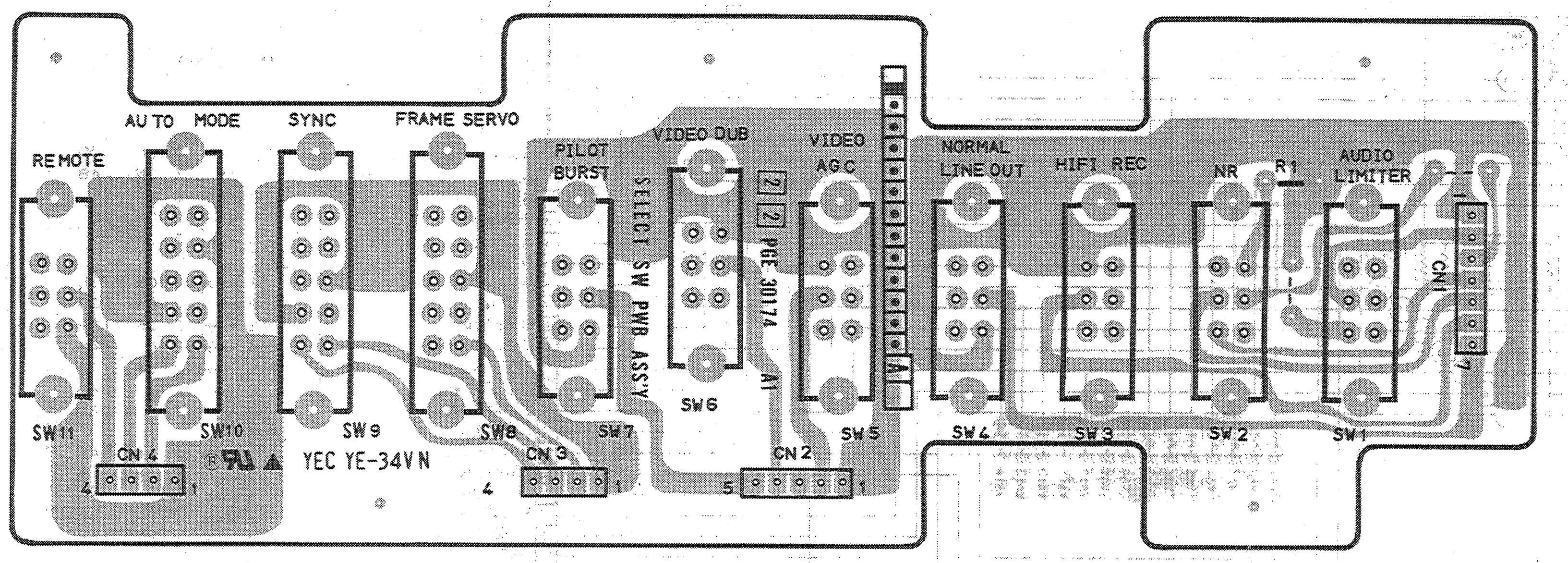

AUDIO LIMITER
SW 1
NR
SW 2
HIFI REC
SW 3
NORMAL LINE OUT
SW 4
VIDEO AGC
SW 5
VIDEO DUB
SW 6
Y/C 627 OUT PILOT BURST
SW 7
COLOR FRAME SERVO
SW 8
SYNC
SW 9
AUTO MODE
SW10
REMOTE
SW 10
ON
OFF
HIFI
NOR
S-VHS
VHS
FRAME
C.FRAME
OFF
EXT (EDIT)
VIDEO
EXT(PB)
FULL REPEAT
OFF
COUNTER MEMORY
LOCAL
REMOTE
R1 680
22 SELECT SW
CN 1
G N D
A.LIMITER
DOLBY LED
DOLBY CTL
12 V
HIFI REC SW
LINE HIFI
CN 2
AGC(L)
DUB ON(L)
PILOT BURST OFF (L)
CN 3
FRAME
VIDEO
EXT PB
COLOR FRAME
CN 4
FULL REPEAT
CNT MEMORY
REMOTE
TO MOTHER BOARD 16 - CN 50
TO MOTHER BOARD 16 - CN 51
TO MOTHER BOARD 16 - CN 52
TO MOTHER BOARD 16 - CN 53

– BR-S811E FRONT LED –

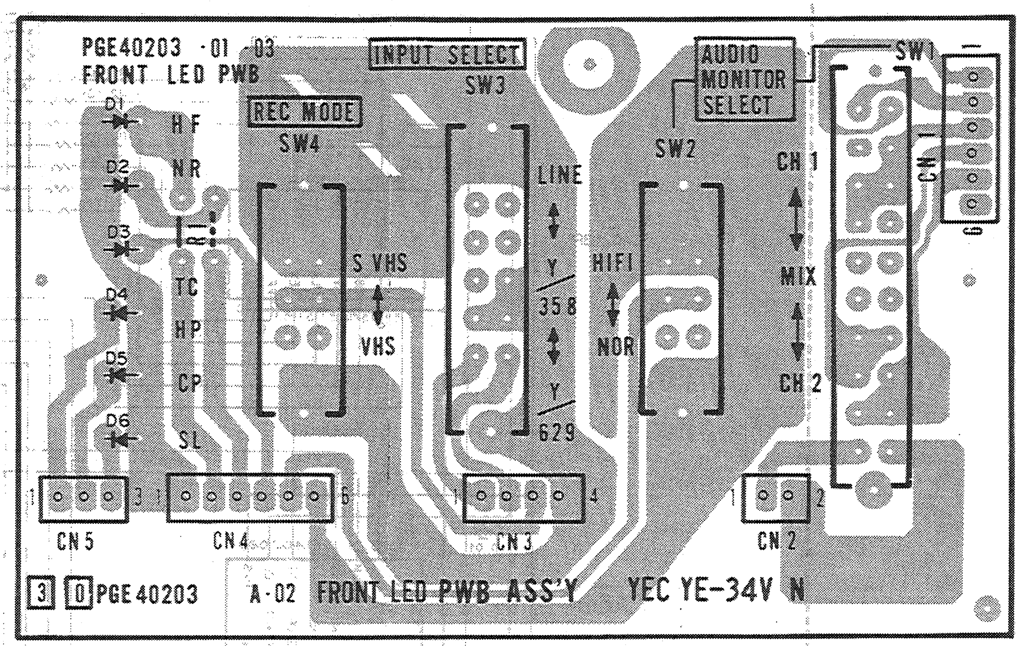

30 FRONT LED
AUDIO MONITOR SELECT
SW 1
SW 2
INPUT SELECT
SW 3
REC MODE
SW 4
CH 1
MIX
CH 2
HIFI
NOR
LINE
Y/C 443
Y/C 627
S-VHS
VHS
R1 680
HIFI
D1
NR
D2
T/C
D3
H.PHASE
D4
CTL PHASE
D5
C.F. SERVO
D6
(G)
(R)
CN 1
GAIN CTL A
GAIN CTL B
G N D
L CH HP IN
R CH HP IN
CN 2
L CH HP OUT
R CH HP OUT
CN 3
627(L)
DUB(L)
S(L)
G N D
CN 4
LED 12V
HIFI LED
DOLBY LED
T/C LED
MONI HIFI
G N D
CN 5
HP LED
CTL P LED
FRAME LED (GREEN)
FRAME LED (RED)
GND
TO REAR 29 - CN27
TO VR BOARD 51 - CN1
TO MOTHER BOARD 16 - CN 48
TO MOTHER BOARD 16 - CN 47
TO MOTHER BOARD 16 - CN 49

4.75 SELECT SWITCH/FRONT LED CIRCUIT BOARD

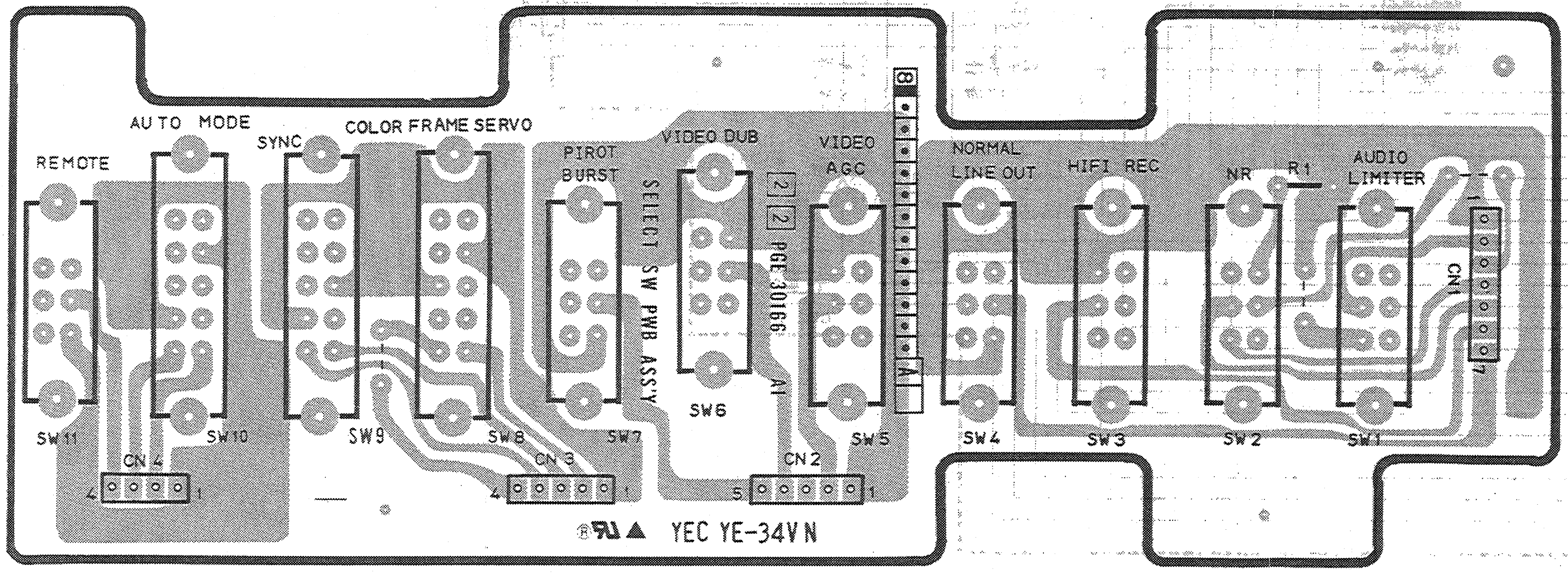
– BR-S611E SELECT SWITCH –


REMOTE
AUTO MODE
SYNC
FRAME SERVO
PILOT BURST
VIDEO DUB
VIDEO AGC
NORMAL LINE OUT
HIFI REC
NR
R1
AUDIO LIMITER
SELECT SW PWB ASS'Y
2 2 PGE 30174
A1
CN1
SW11
SW10
SW9
SW8
SW7
SW6
SW5
SW4
SW3
SW2
SW1
CN4
CN3
CN2
YEC YE-34VN
4
1
5
7

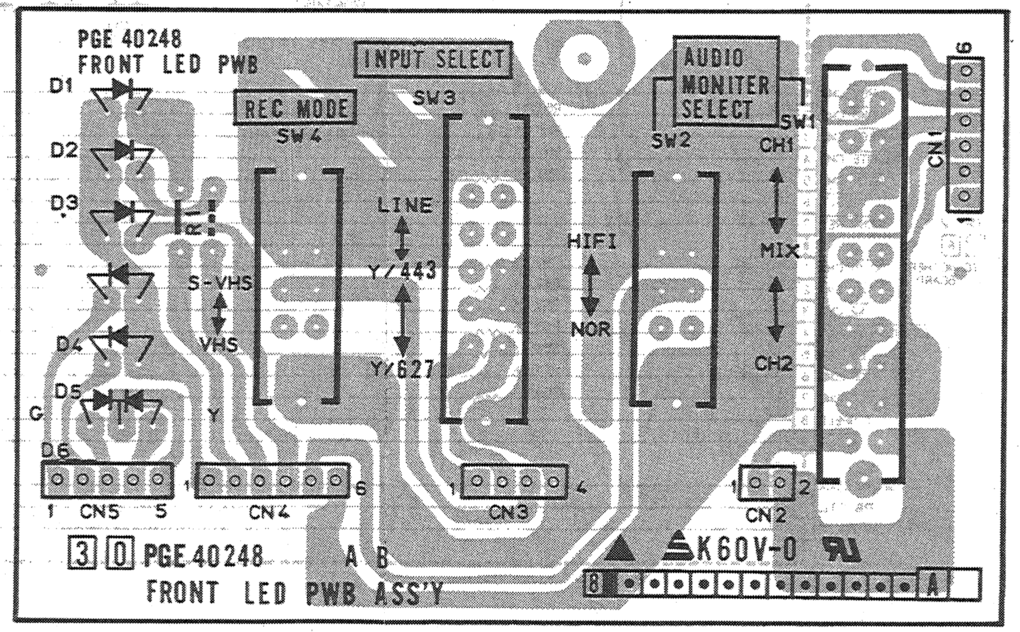
– BR-S611E FRONT LED –


PGE40203 -01 -03
FRONT LED PWB
INPUT SELECT
SW3
REC MODE
SW4
AUDIO MONITOR SELECT
SW2
SW1
D1 HF
D2 NR
D3
D4 TC
D5 HP
D6 CP
SL
S VHS
VHS
LINE
Y 358
Y 629
HIFI
NOR
CH 1
MIX
CH 2
CN1
CN5
CN4
CN3
CN2
3 0 PGE40203
A-02 FRONT LED PWB ASS'Y
YEC YE-34V N

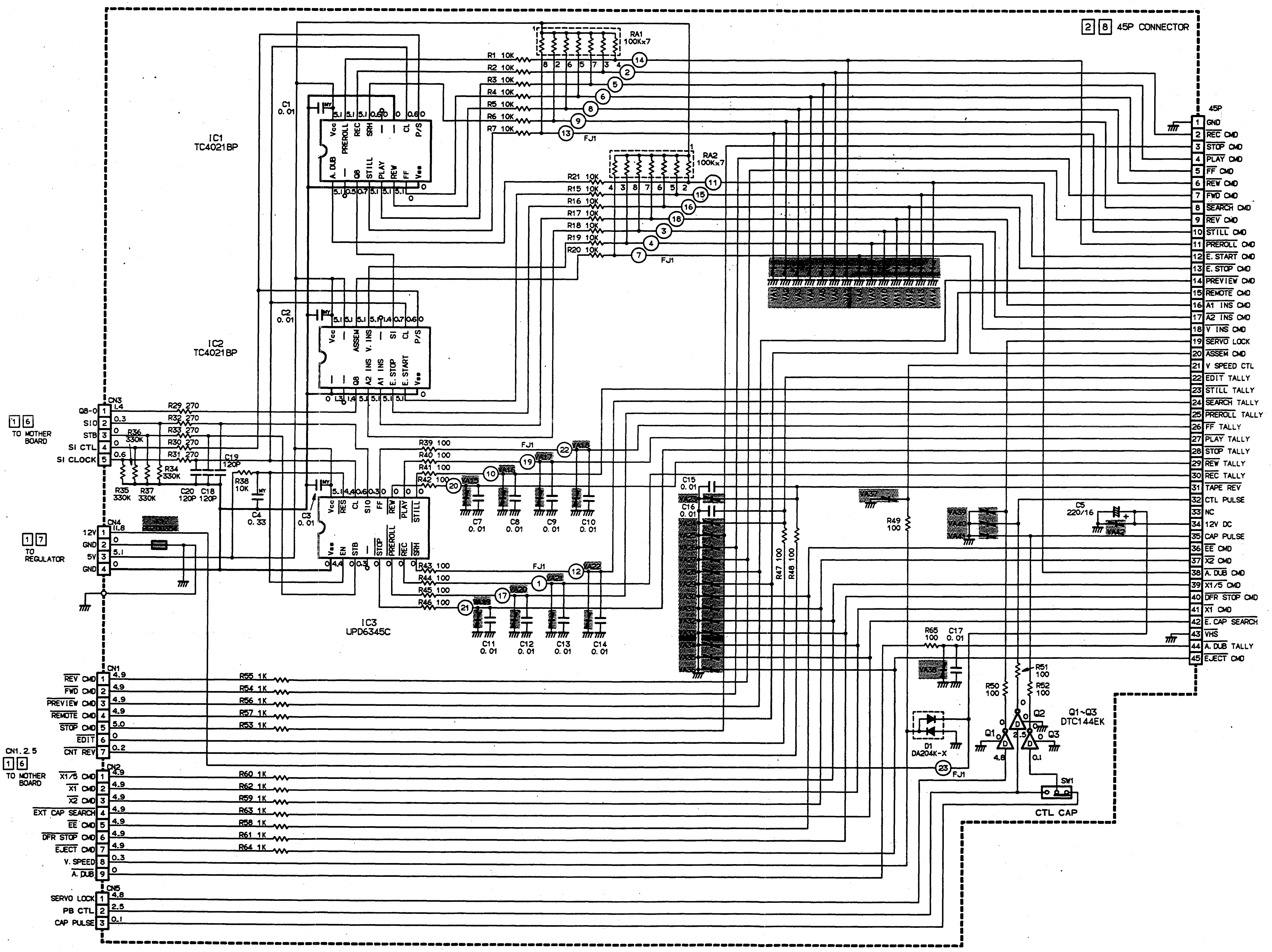
– BR-S811E SELECT SWITCH –


REMOTE
AUTO MODE
SYNC
COLOR FRAME SERVO
PIROT BURST
VIDEO DUB
VIDEO AGC
NORMAL LINE OUT
HIFI REC
NR
R1
AUDIO LIMITER
SELECT SW PWB ASS'Y
2 2 PGE 30166
A1
CN1
SW11
SW10
SW9
SW8
SW7
SW6
SW5
SW4
SW3
SW2
SW1
CN4
CN3
CN2
YEC YE-34VN
4
1
5
7
8
A

– BR-S811E FRONT LED –


PGE 40248
FRONT LED PWB
INPUT SELECT
SW3
REC MODE
SW4
AUDIO MONITER SELECT
SW2
SW1
D1
D2
D3
D4
D5
D6
G
S-VHS
VHS
Y
LINE
Y/443
Y/627
HIFI
NOR
CH1
MIX
CH2
CN1
CN5
CN4
CN3
CN2
3 0 PGE 40248
A B
FRONT LED PWB ASS'Y
K60V-0
8
A

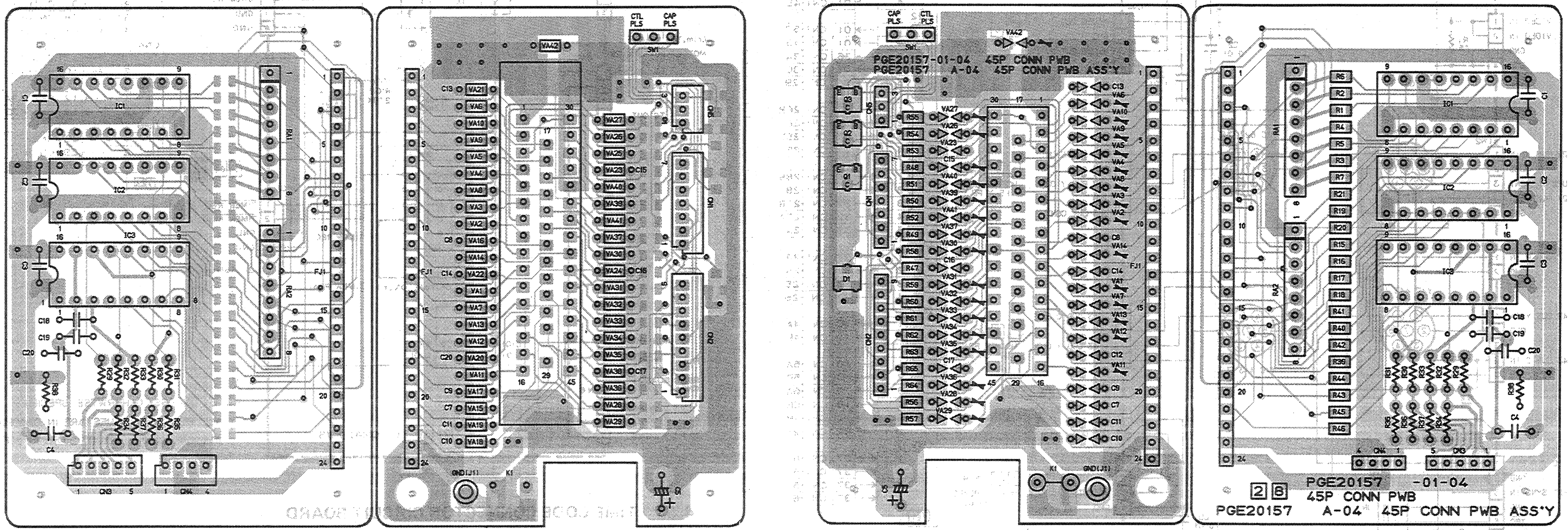
4.76 45 PIN CONNECTOR SCHEMATIC DIAGRAM


2 8 45P CONNECTOR
RA1 100K×7
RA2 100K×7
R1 10K
R2 10K
R3 10K
R4 10K
R5 10K
R6 10K
R7 10K
R21 10K
R15 10K
R16 10K
R17 10K
R18 10K
R19 10K
R20 10K
FJ1
IC1 TC4021BP
IC2 TC4021BP
IC3 UPD6345C
C1 0.01
C2 0.01
C3 0.01
C4 0.33
C5 220/16
C15 0.01
C16 0.01
C17 0.01
C19 120P
C20 120P
C18 120P
R29 270
R32 270
R33 270
R30 270
R31 270
R34 330K
R35 330K
R36 330K
R37 330K
R38 10K
R39 100
R40 100
R41 100
R42 100
R43 100
R44 100
R45 100
R46 100
C7 0.01
C8 0.01
C9 0.01
C10 0.01
C11 0.01
C12 0.01
C13 0.01
C14 0.01
R47 100
R48 100
R49 100
R50 100
R51 100
R52 100
R65 100
R55 1K
R54 1K
R56 1K
R57 1K
R53 1K
R60 1K
R62 1K
R59 1K
R63 1K
R58 1K
R61 1K
R64 1K
D1 DA204K-X
Q1~Q3 DTC144EK
Q1
Q2
Q3
SW1
CTL CAP
1 6 TO MOTHER BOARD
1 7 TO REGULATOR
CN1, 2, 5 1 6 TO MOTHER BOARD
CN3
Q8-O 1 1.4
SI O 2 0.3
STB 3
SI CTL 4
SI CLOCK 5 0.6
CN4
12V 1 11.8
GND 2 0
5V 3 5.1
GND 4 0
CN1
REV CMD 1 4.9
FWD CMD 2 4.9
PREVIEW CMD 3 4.9
REMOTE CMD 4 4.9
STOP CMD 5 5.0
EDIT 6 0
CNT REV 7 0.2
CN2
X1/5 CMD 1 4.9
X1 CMD 2 4.9
X2 CMD 3 4.9
EXT CAP SEARCH 4 4.9
EE CMD 5 4.9
DFR STOP CMD 6 4.9
EJECT CMD 7 4.9
V. SPEED 8 0.3
A. DUB 9 0
CN5
SERVO LOCK 1 4.8
PB CTL 2 2.5
CAP PULSE 3 0.1
45P
1 GND
2 REC CMD
3 STOP CMD
4 PLAY CMD
5 FF CMD
6 REW CMD
7 FWD CMD
8 SEARCH CMD
9 REV CMD
10 STILL CMD
11 PREROLL CMD
12 E. START CMD
13 E. STOP CMD
14 PREVIEW CMD
15 REMOTE CMD
16 A1 INS CMD
17 A2 INS CMD
18 V INS CMD
19 SERVO LOCK
20 ASSEM CMD
21 V SPEED CTL
22 EDIT TALLY
23 STILL TALLY
24 SEARCH TALLY
25 PREROLL TALLY
26 FF TALLY
27 PLAY TALLY
28 STOP TALLY
29 REW TALLY
30 REC TALLY
31 TAPE REV
32 CTL PULSE
33 NC
34 12V DC
35 CAP PULSE
36 EE CMD
37 X2 CMD
38 A. DUB CMD
39 X1/5 CMD
40 DFR STOP CMD
41 X1 CMD
42 E. CAP SEARCH
43 VHS
44 A. DUB TALLY
45 EJECT CMD

— WIRING TABLE —

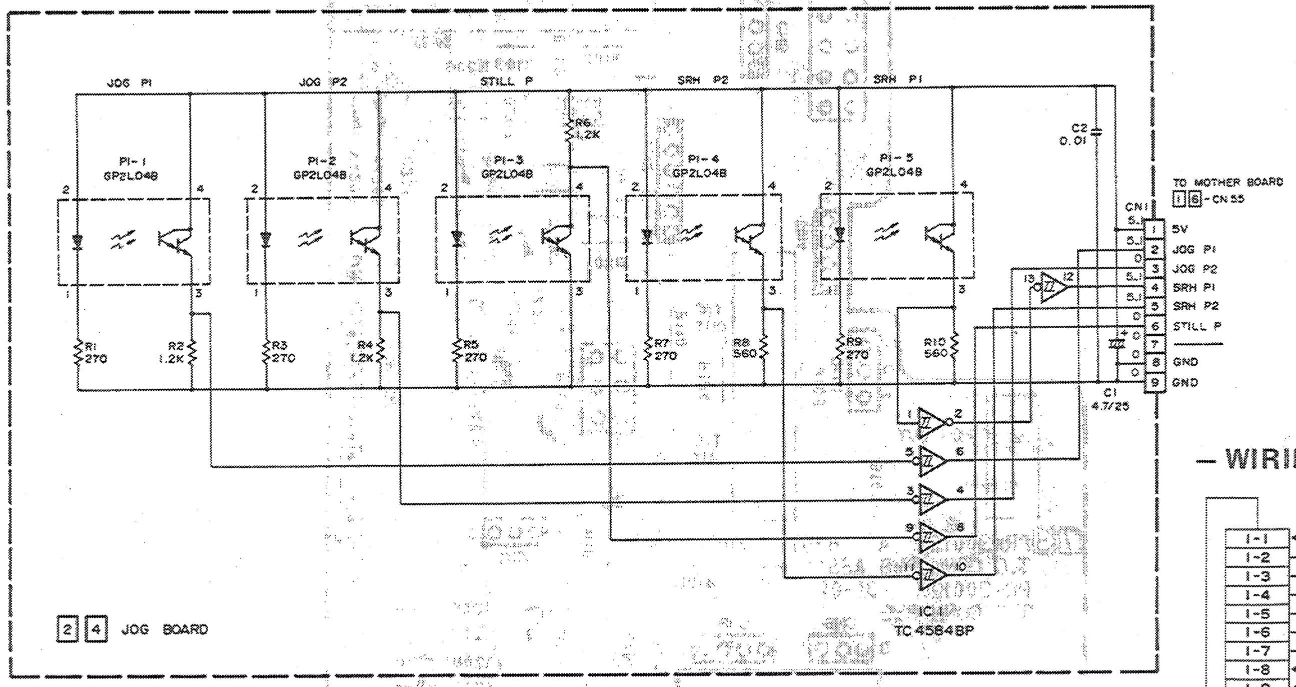
CN3			
1	→	12	CN1-10B
2	←	12	CN1-24B
3	←	12	CN1-39
4	←	12	CN1-36
5	←	12	CN1-37
CN1			
1	→	12	CN1-22B
2	→	12	CN1-23B
3	→	12	CN1-12B
4	→	12	CN1-14B
5	→	12	CN1-17B
6	←	12	CN1-26B
7	←	12	CN1-25B
CN2			
1	→	12	CN1-19B
2	→	12	CN1-20B
3	→	12	CN1-21B
4	→	12	CN1-11B
5	→	12	CN1-13B
6	→	12	CN1-15B
7	→	12	CN1-16B
8	→	12	CN1-18B
9	←	12	CN1-27B
CN5			
1	←	10	CN1-26B
2	←	10	CN1-19A
3	←	11	CN1-25B
2 8			

4.77 45PIN CONNECTOR CIRCUIT BOARD


– Parts side –

– Solder side –
IC1
IC2
IC3
RA1
RA2
FJ1
CN3
CN4
CN1
CN2
CN5
CN6
SW1
CTL PLS
CAP PLS
GND(J1)
K1
VA42
PGE20157-01-04 45P CONN PWB
PGE20157 A-04 45P CONN PWB ASS'Y
2 8
PGE20157 -01-04
45P CONN PWB
PGE20157 A-04 45P CONN PWB ASS'Y

4.78 JOG SCHEMATIC DIAGRAM

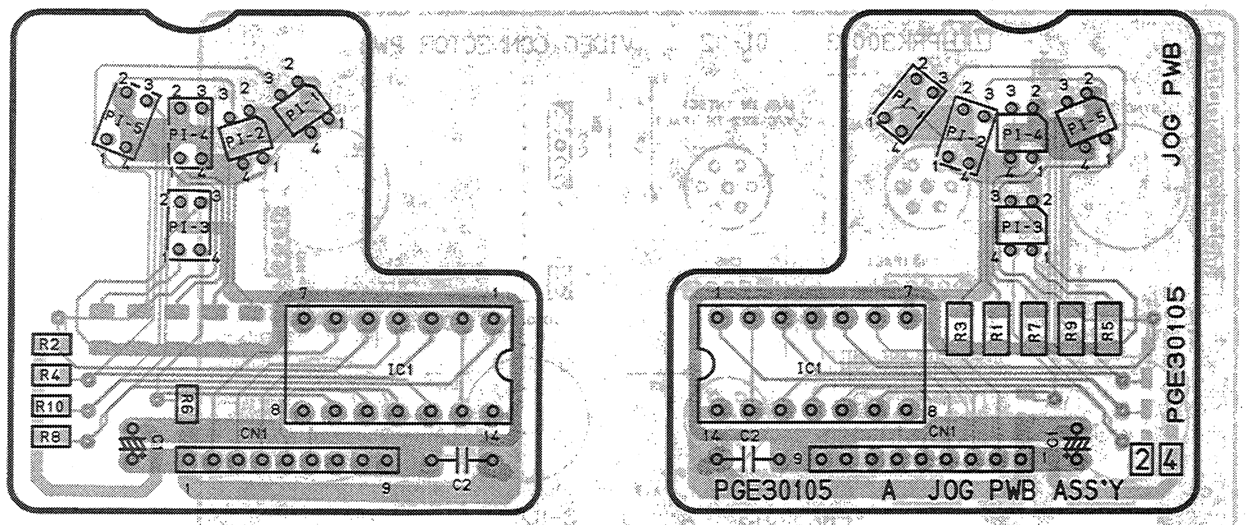

JOG P1
JOG P2
STILL P
SRH P2
SRH P1
PI-1 GP2L04B
PI-2 GP2L04B
PI-3 GP2L04B
PI-4 GP2L04B
PI-5 GP2L04B
R1 270
R2 1.2K
R3 270
R4 1.2K
R5 270
R6 1.2K
R7 270
R8 560
R9 270
R10 560
C2 0.01
C1 4.7/25
CN1
TO MOTHER BOARD
1 6 - CN55
1 5V
2 JOG P1
3 JOG P2
4 SRH P1
5 SRH P2
6 STILL P
7
8 GND
9 GND
IC1 TC4584BP
2 4 JOG BOARD

– WIRING TABLE –

1-1	←	17	CN5-7
1-2	→	12	CN1-30A
1-3	→	12	CN1-31A
1-4	→	12	CN1-28A
1-5	→	12	CN1-29A
1-6	→	12	CN1-32A
1-7	→	12	CN1-8AB
1-8	←	17	CN5-8
1-9	←	17	CN5-8

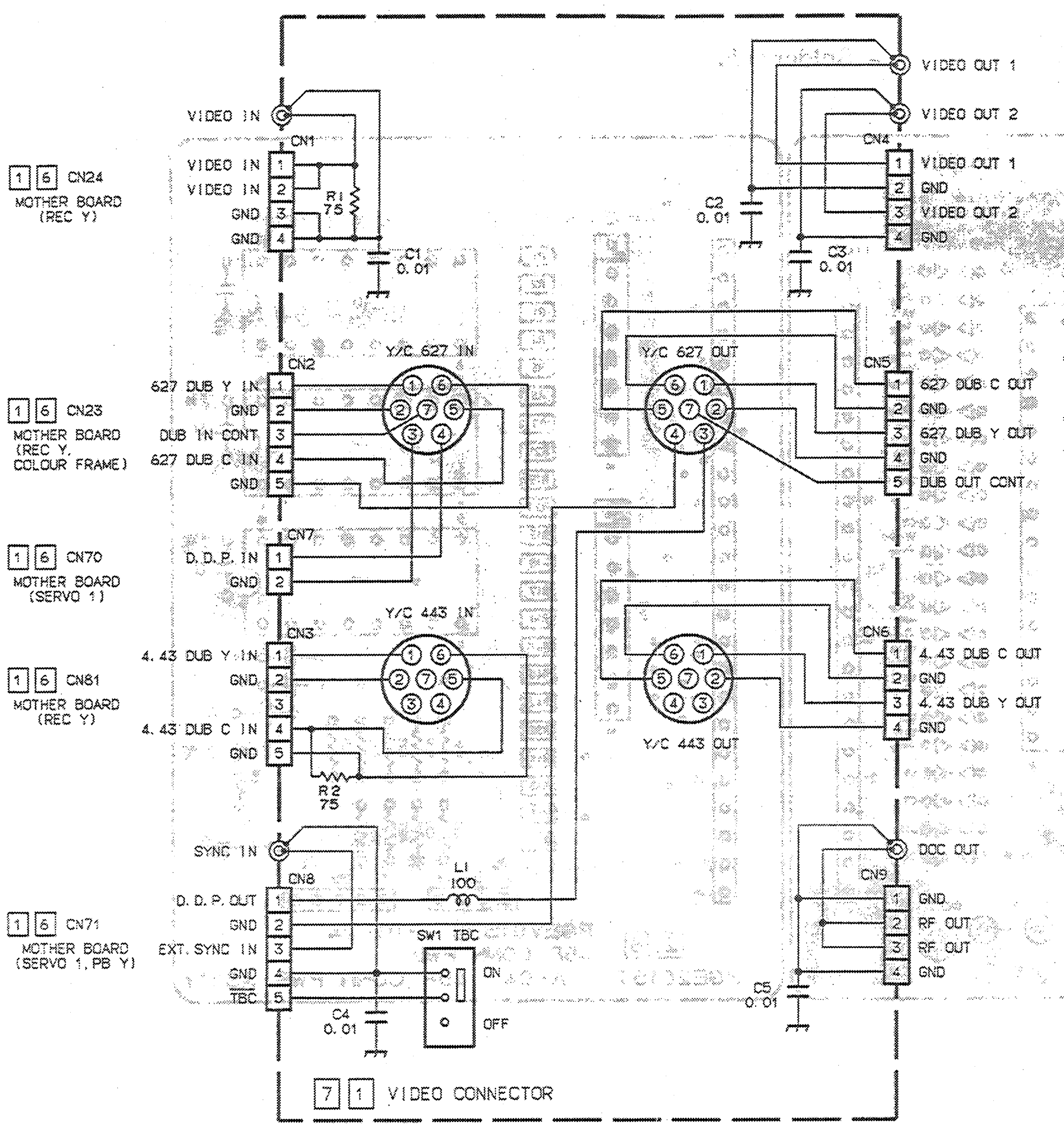
2 4

4.79 JOG CIRCUIT BOARD


– Parts side –

– Solder side –
PI-1
PI-2
PI-3
PI-4
PI-5
R2
R4
R10
R8
R6
R3
R1
R7
R9
R5
IC1
CN1
C1
C2
JOG PWB
PGE30105
PGE30105 A JOG PWB ASS'Y
2 4

4.80 VIDEO CONNECTOR SCHEMATIC DIAGRAM

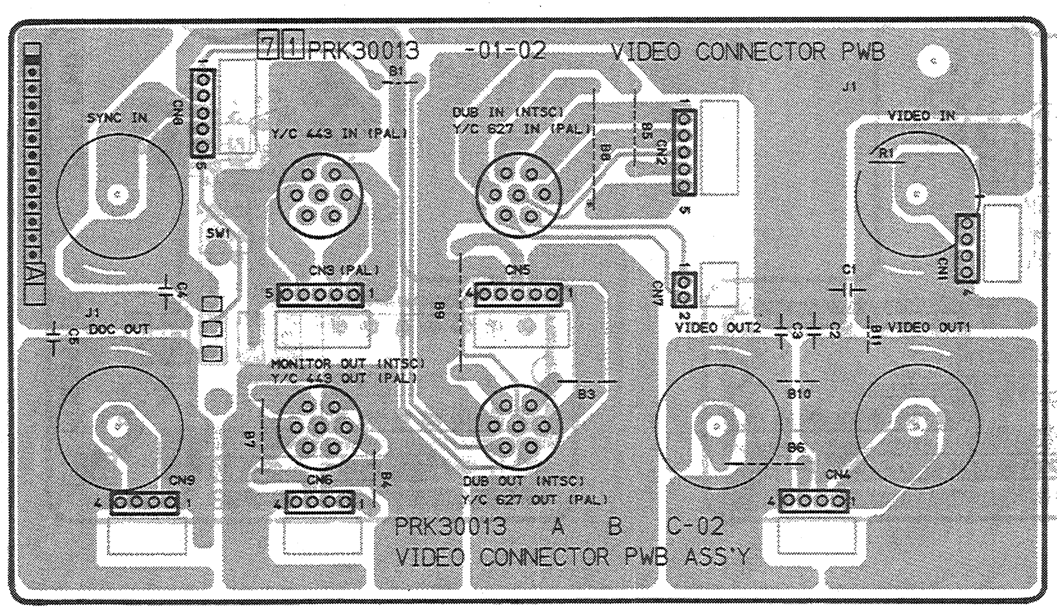

VIDEO IN
1 6 CN24 MOTHER BOARD (REC Y)
CN1
VIDEO IN
VIDEO IN
GND
GND
R1 75
C1 0.01
1 6 CN23 MOTHER BOARD (REC Y, COLOUR FRAME)
CN2
627 DUB Y IN
GND
DUB IN CONT
627 DUB C IN
GND
Y/C 627 IN
1 6 CN70 MOTHER BOARD (SERVO 1)
CN7
D.D.P. IN
GND
1 6 CN81 MOTHER BOARD (REC Y)
CN3
Y/C 443 IN
4.43 DUB Y IN
GND
4.43 DUB C IN
GND
R2 75
SYNC IN
1 6 CN71 MOTHER BOARD (SERVO 1, PB Y)
CN8
D.D.P. OUT
GND
EXT. SYNC IN
GND
TBC
L1 100
SW1 TBC
ON
OFF
C4 0.01
VIDEO OUT 1
VIDEO OUT 2
CN4
VIDEO OUT 1
GND
VIDEO OUT 2
GND
C2 0.01
C3 0.01
1 6 J21 MOTHER BOARD (RF 2H DL)
Y/C 627 OUT
CN5
627 DUB C OUT
GND
627 DUB Y OUT
GND
DUB OUT CONT
1 6 CN22 MOTHER BOARD (PB Y, PB C)
CN6
4.43 DUB C OUT
GND
4.43 DUB Y OUT
GND
Y/C 443 OUT
1 6 J21 MOTHER BOARD (RF 2H DL)
DOC OUT
CN9
GND
RF OUT
RF OUT
GND
C5 0.01
1 6 CN59 MOTHER BOARD (RF 2H DL)
7 1 VIDEO CONNECTOR

– WIRING TABLE –

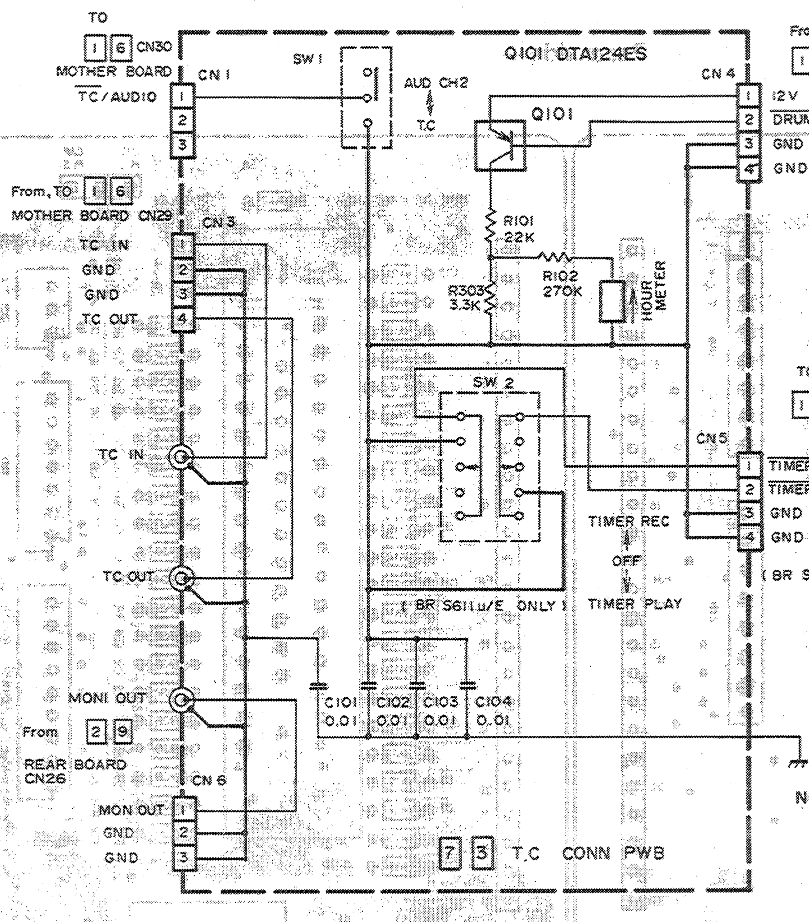
CN1	1	→	01	CN1-46
	2	→	01	CN1-46
	3	→	01	CN1-45
	4	→	01	CN1-45
CN2	1	→	01	CN1-50
	2	→	01	CN1-49
	3	→	36	CN1-3A
	4	→	01	CN1-30
	5	→	01	CN1-29
CN4	1	←	37	CN1-26B
	2	←	37	CN1-26A
	3	←	37	CN1-25B
	4	←	37	CN1-25A
CN5	1	←	37	CN1-28B
	2	←	37	CN1-28A
	3	←	37	CN1-27B
	4	←	37	CN1-27A
	5	←	36	CN1-2A
CN6	1	←	37	CN1-23
	2	←	37	CN1-24
	3	←	37	CN1-25
	4	←	37	CN1-26
CN7	1	→	10	CN1-4A
	2	→	10	CN1-4B
CN8	1	←	10	CN1-5A
	2	←	10	CN1-5B
	3	→	10	CN1-6A
	4	→	10	CN1-6B
	5	→	10	CN1-7B
		↘	02	CN1-25
CN9	1	←	37	CN1-6
	2	←	37	CN1-5
	3	←	37	CN1-5
	4	←	37	CN1-6

7 1

4.81 VIDEO CONNECTOR CIRCUIT BOARD


7 1 PRK30013 -01-02 VIDEO CONNECTOR PWB
SYNC IN
CN8
Y/C 443 IN (PAL)
B1
DUB IN (NTSC)
Y/C 627 IN (PAL)
CN2
J1
VIDEO IN
R1
CN1
SW1
CN3 (PAL)
CN5
CN7
C1
J1 DOC OUT
C4
C5
VIDEO OUT2
C3
C2
VIDEO OUT1
MONITOR OUT (NTSC)
Y/C 443 OUT (PAL)
DUB OUT (NTSC)
Y/C 627 OUT (PAL)
B3
B10
B6
CN9
CN6
CN4
PRK30013 A B C-02
VIDEO CONNECTOR PWB ASS'Y

4.82 TIMECODE CONNECTOR SCHEMATIC DIAGRAM


TO
1 6 CN30
MOTHER BOARD
TC/AUDIO
CN1
SW1
AUD CH2
T.C
Q101 DTA124ES
Q101
CN4
12V
DRUM ON
GND
GND
From
1 6
MOTHER BOARD CN72
From, TO 1 6
MOTHER BOARD CN29
CN3
TC IN
GND
GND
TC OUT
R101 22K
R102 270K
R303 3.3K
HOUR METER
SW2
TC IN
TC OUT
TIMER REC
OFF
TIMER PLAY
(BR S611u/E ONLY)
CN5
TIMER REC
TIMER PLAY
GND
GND
TO
1 6 MOTHER BOARD CN68
C101 0.01
C102 0.01
C103 0.01
C104 0.01
MONI OUT
From 2 9
REAR BOARD CN26
CN6
MON OUT
GND
GND
7 3 T.C CONN PWB

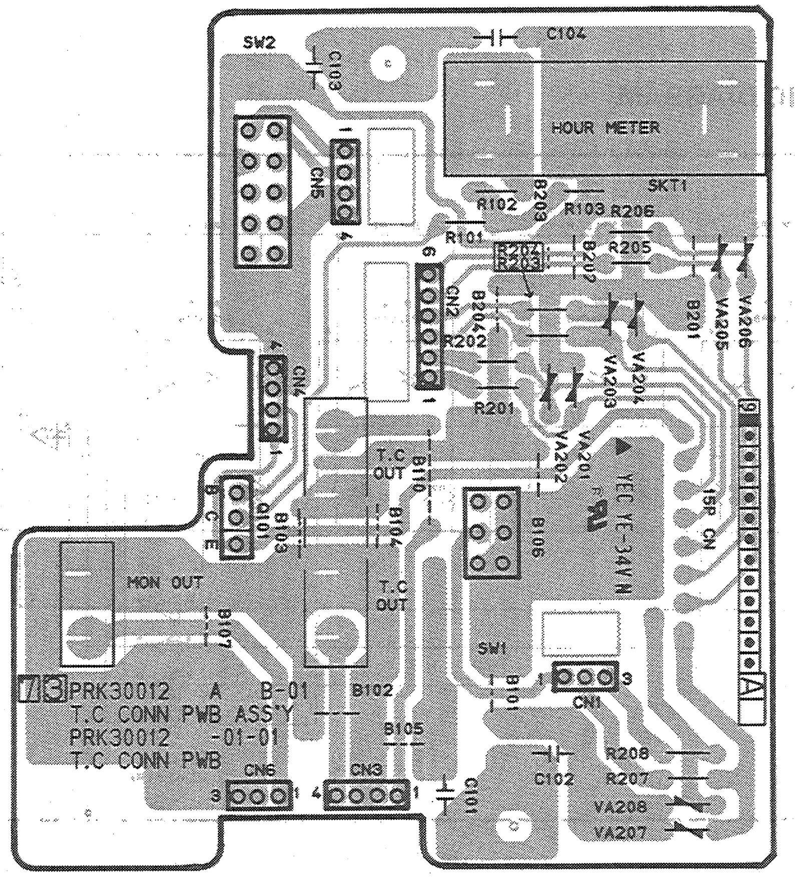
NOTE: UNLESS OTHERWTSE SPECIPIEP
ALL RESISTOR VALUES ARE IN OHMS(1/6W)
ALL CADACITOR VALUES ARE IN µF.

– WIRING TABLE –

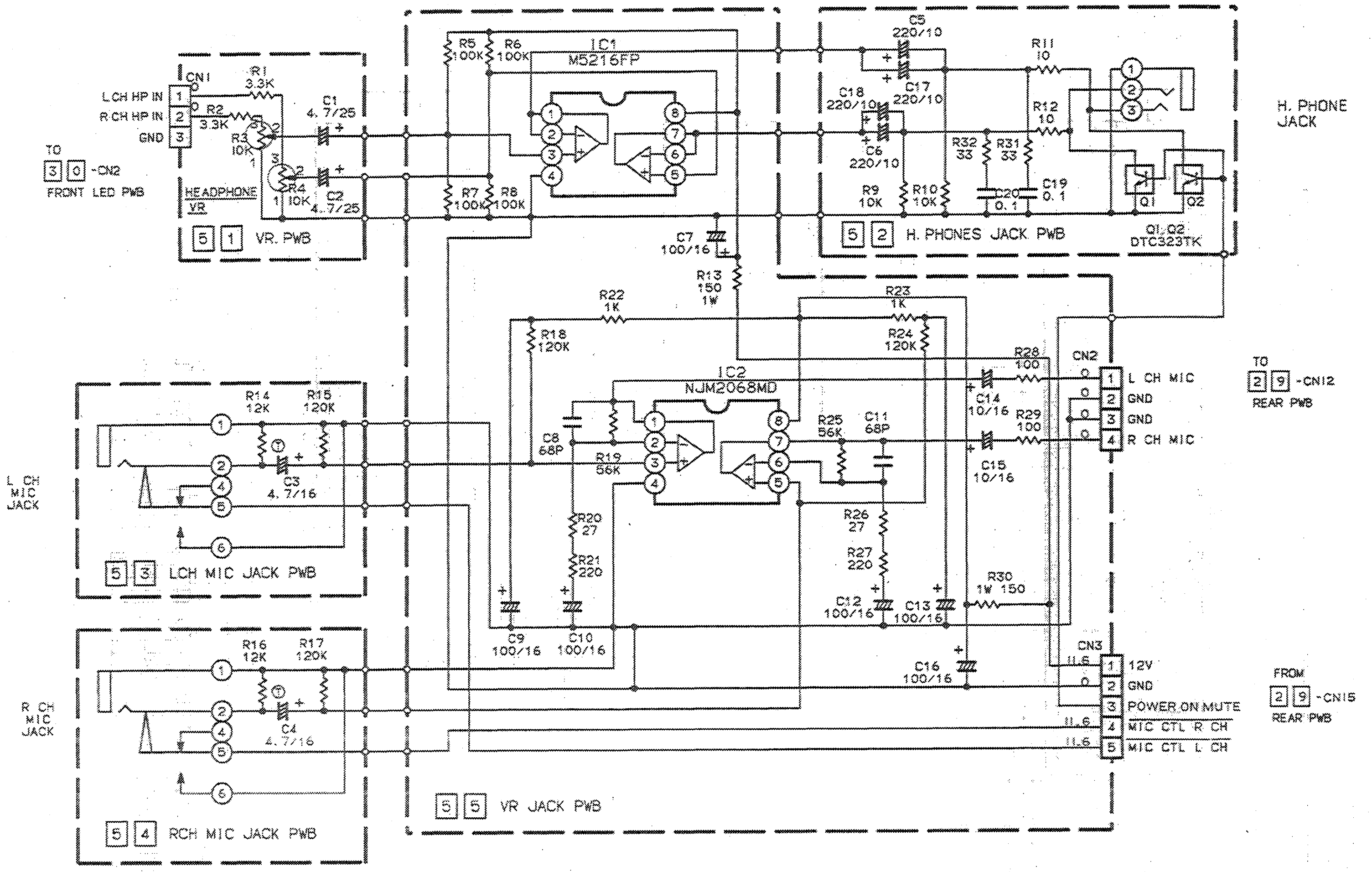
CN1	1	→	12	CN1-28B
CN3	1	→	08	CN10-8
	2	→	08	CN10-9
	3	←	08	CN10-10
	4	←	08	CN10-11
CN4	1	←	17	CN8-4
	2	←	10	CN1-7A
CN5	1	→	12	CN1-43A
	2	→	12	CN1-43B
CN6	1	←	29	CN26-1
	2	←	29	CN26-2
	3	←	29	CN26-3

7 3

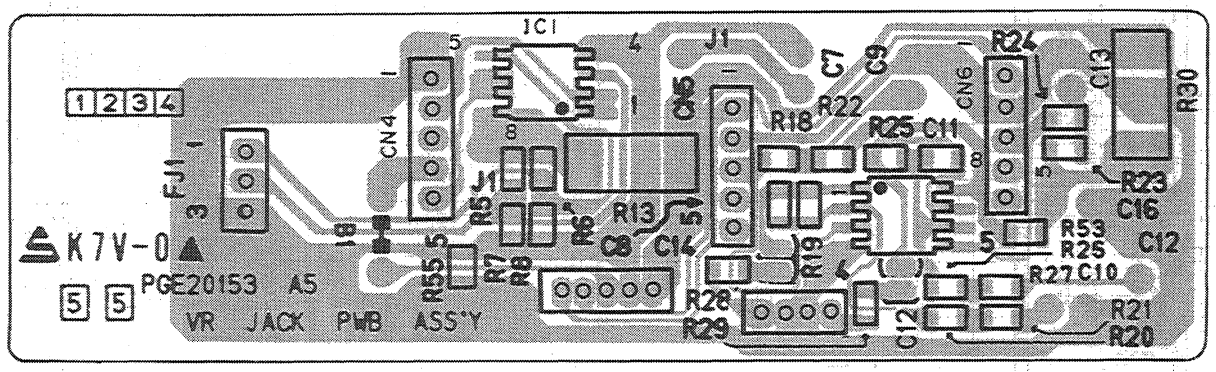
4.83 TIME CODE CONNECTOR CIRCUIT BOARD


SW2
C103
C104
HOUR METER
CN5
SKT1
R102
B203
R103
R206
R101
R205
CN2
R202
B201
VA206
VA205
VA204
VA203
VA202
VA201
R201
CN4
T.C OUT
B110
B104
B106
B103
Q101
B C E
YEC YE-34VN
15P CN
MON OUT
B107
T.C OUT
SW1
B101
CN1
7 3 PRK30012 A B-01
T.C CONN PWB ASS'Y
PRK30012 -01-01
T.C CONN PWB
B102
B105
C101
C102
R208
R207
VA208
VA207
CN6
CN3

4.84 JACK SCHEMATIC DIAGRAM

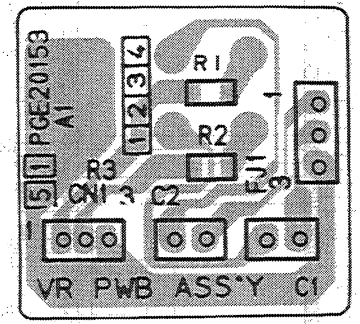

CN1
L CH HP IN
R CH HP IN
GND
TO
3 0 -CN2
FRONT LED PWB
R1 3.3K
R2 3.3K
R3 10K
R4 10K
C1 4.7/25
C2 4.7/25
HEADPHONE VR
5 1 VR. PWB
R5 100K
R6 100K
R7 100K
R8 100K
IC1 M5216FP
C5 220/10
C17 220/10
C18 220/10
C6 220/10
R11 10
R12 10
R32 33
R31 33
C20 0.1
C19 0.1
R9 10K
R10 10K
Q1
Q2
Q1,Q2 DTC323TK
H. PHONE JACK
5 2 H. PHONES JACK PWB
C7 100/16
R13 150 1W
R22 1K
R23 1K
R18 120K
R24 120K
IC2 NJM2068MD
C8 68P
R19 56K
R25 56K
C11 68P
R28 100
R29 100
C14 10/16
C15 10/16
CN2
L CH MIC
GND
GND
R CH MIC
TO
2 9 -CN12
REAR PWB
R14 12K
R15 120K
C3 4.7/16
L CH MIC JACK
5 3 LCH MIC JACK PWB
R20 27
R21 220
R26 27
R27 220
R30 1W 150
C9 100/16
C10 100/16
C12 100/16
C13 100/16
C16 100/16
CN3
12V
GND
POWER ON MUTE
MIC CTL R CH
MIC CTL L CH
FROM
2 9 -CN15
REAR PWB
R16 12K
R17 120K
C4 4.7/16
R CH MIC JACK
5 4 RCH MIC JACK PWB
5 5 VR JACK PWB

— JACK 5 5 —

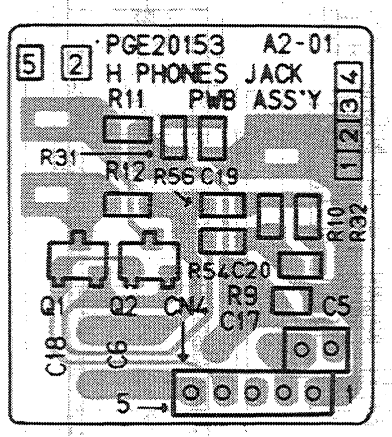

1 2 3 4
FJ1
IC1
CN4
J1
CN5
C7
C9
CN6
R24
C13
R30
R18
R22
R25
C11
R13
C14
C8
R19
R28
R29
C12
R23
C16
R53
R25
C12
R27
C10
R21
R20
R55
R7
R8
R5
R6
K7V-0
PGE20153 A5
5 5
VR JACK PWB ASS'Y

4.85 JACK CIRCUIT BOARD

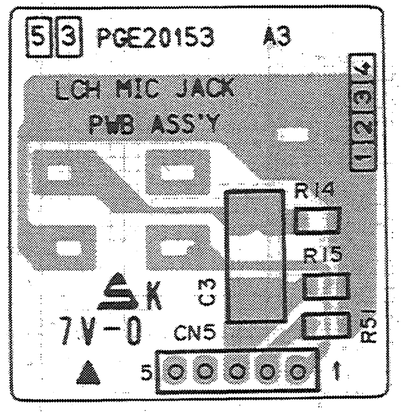
— HEADPHONE VR 5 1 —


5 1
PGE20153 A1
1 2 3 4
R1
R2
R3
CN1
C2
FJ1
VR PWB ASS'Y
C1

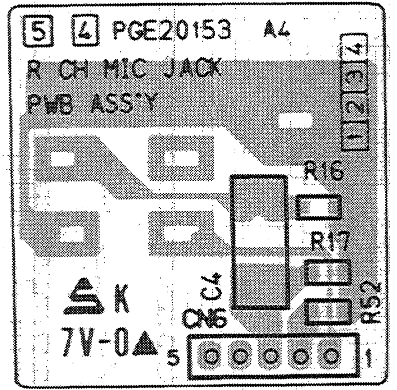
— HEADPHONE JACK 5 2 —


5 2
PGE20153 A2-01
H PHONES JACK PWB ASS'Y
1 2 3 4
R11
R31
R12
R56
C19
R10
R32
Q1
Q2
R54
C20
CN4
R9
C17
C5
C18
C6

— L CH MIC JACK 5 3 —

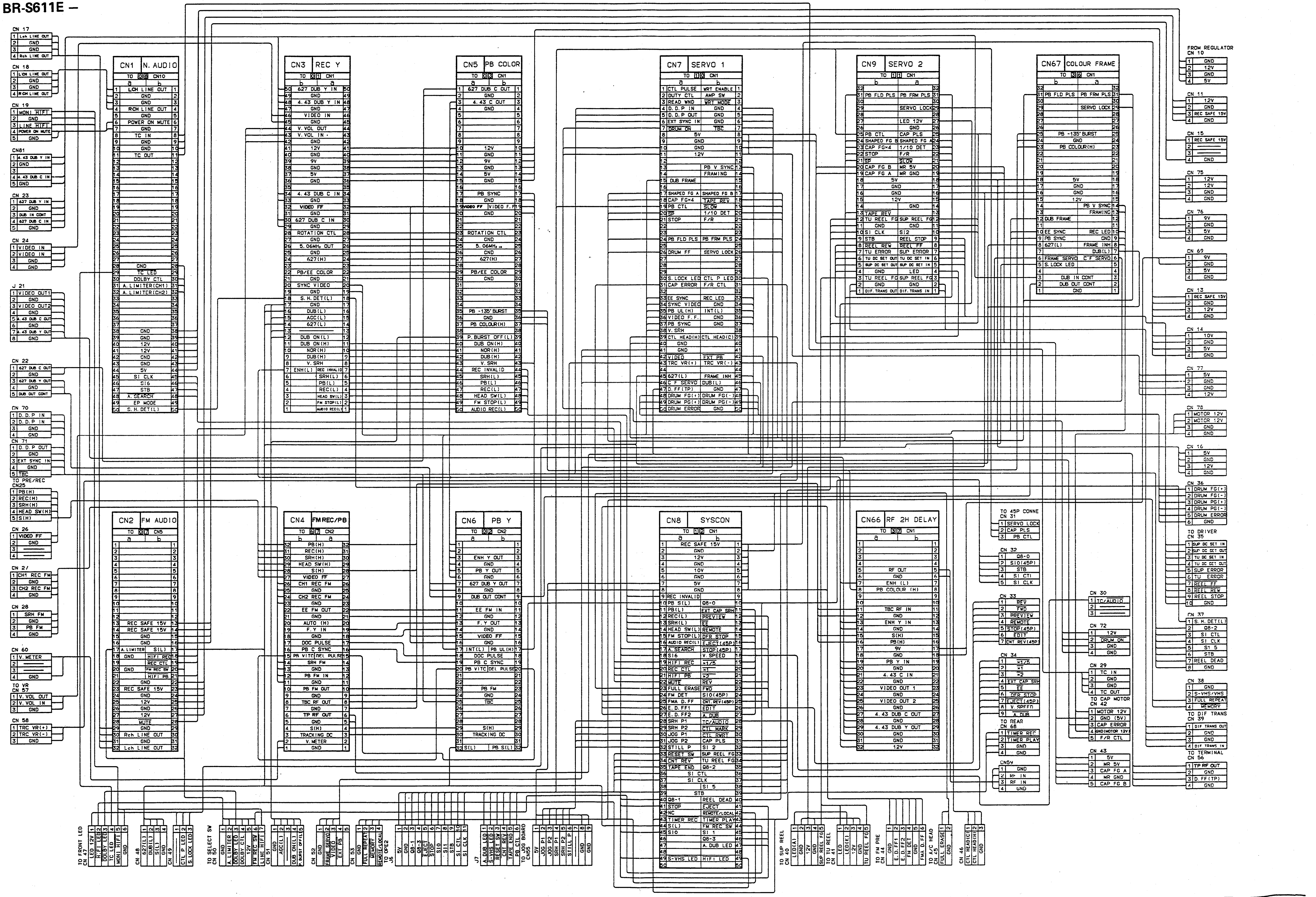

5 3 PGE20153 A3
LCH MIC JACK PWB ASS'Y
1 2 3 4
R14
R15
C3
R51
K
7V-0
CN5

— R CH MIC JACK 5 4 —

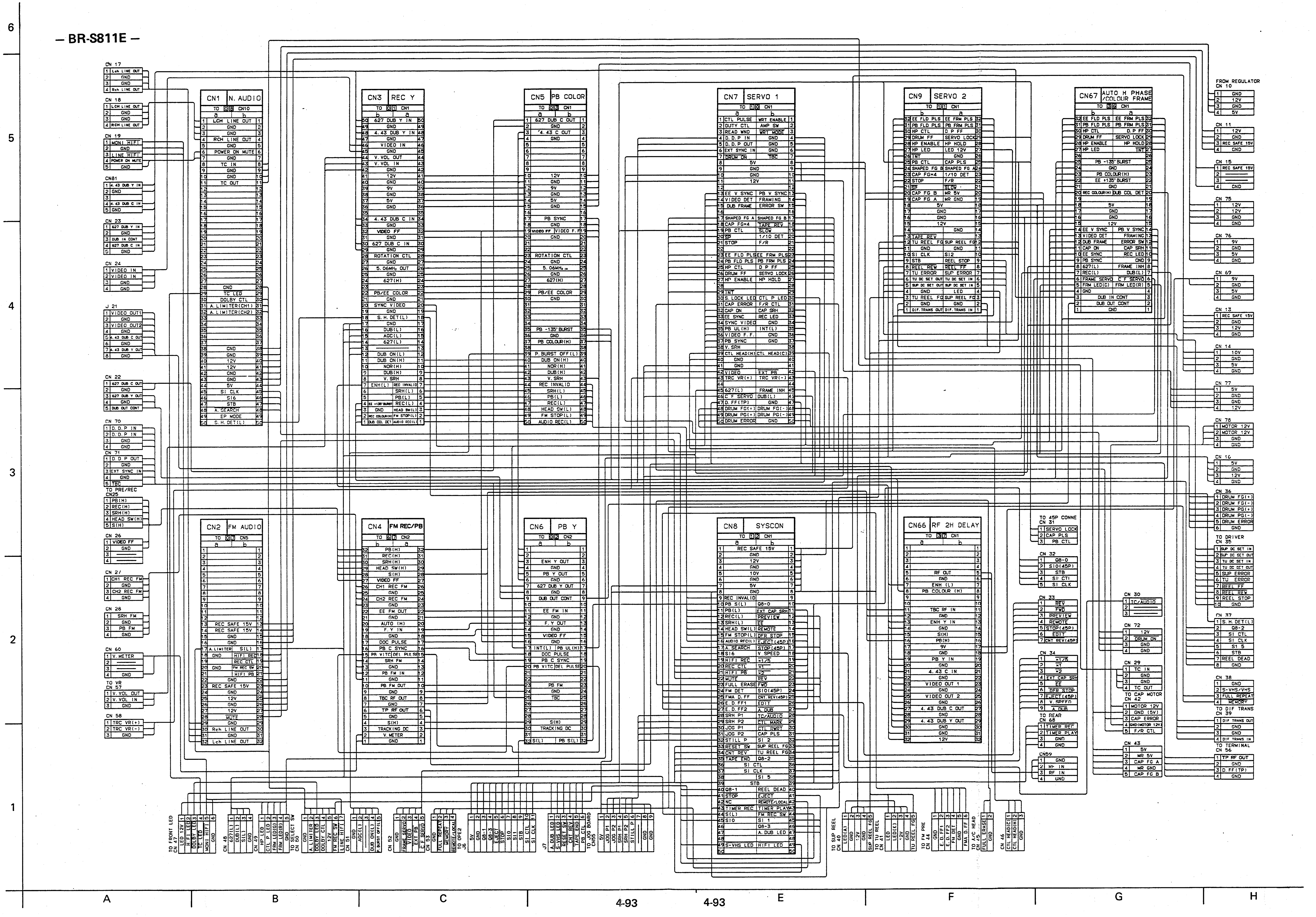

5 4 PGE20153 A4
R CH MIC JACK PWB ASS'Y
1 2 3 4
R16
R17
C4
R52
K
7V-0
CN6

4.86 MOTHER SCHEMATIC DIAGRAM

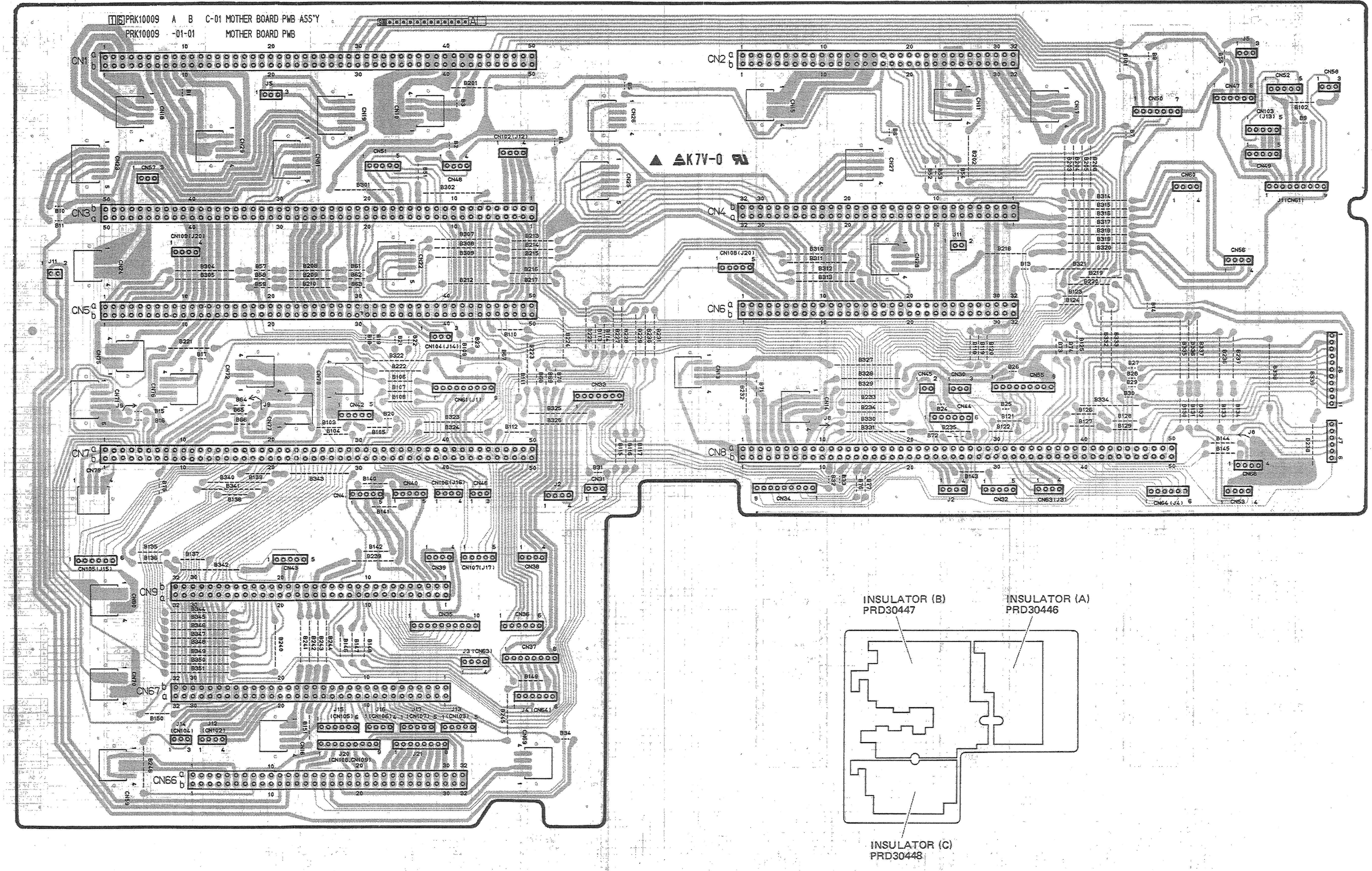
– BR-S611E –


CN1 N. AUDIO
CN3 REC Y
CN5 PB COLOR
CN7 SERVO 1
CN9 SERVO 2
CN67 COLOUR FRAME
CN2 FM AUDIO
CN4 FMREC/PB
CN6 PB Y
CN8 SYSCON
CN66 RF 2H DELAY
FROM REGULATOR CN 10
TO PRE/REC CN25
TO 45P CONNE CN 31
TO DRIVER CN 35
TO CAP MOTOR CN 42
TO DIF TRANS CN 39
TO TERMINAL CN 56
TO REAR CN 68
TO VR CN 57
TO FRONT LED CN 47
TO SELECT SW CN 50
TO JOG BOARD CN55
TO SUP REEL CN 40
TO TU REEL CN 41
TO FM PRE CN 44
TO A/C HEAD CN 45
CN 17
CN 18
CN 19
CN81
CN 23
CN 24
J 21
CN 22
CN 70
CN 71
CN 26
CN 27
CN 28
CN 60
CN 58
CN 48
CN 49
CN 51
CN 52
CN 53
CN 54
J7
CN 46
CN 11
CN 15
CN 75
CN 76
CN 69
CN 13
CN 14
CN 77
CN 78
CN 16
CN 36
CN 37
CN 38
CN 30
CN 72
CN 29
CN 43
CN 32
CN 33
CN 34
CN59
6
5
4
3
2
1
A
B
C
E
F
G
H

– BR-S811E –


CN1 N. AUDIO
CN3 REC Y
CN5 PB COLOR
CN7 SERVO 1
CN9 SERVO 2
CN67 AUTO H PHASE /COLOUR FRAME
CN2 FM AUDIO
CN4 FM REC/PB
CN6 PB Y
CN8 SYSCON
CN66 RF 2H DELAY
CN 17
CN 18
CN 19
CN81
CN 23
CN 24
J 21
CN 22
CN 70
CN 71
TO PRE/REC CN25
CN 26
CN 27
CN 28
CN 60
TO VR CN 57
CN 58
FROM REGULATOR CN 10
CN 11
CN 15
CN 75
CN 76
CN 69
CN 13
CN 14
CN 77
CN 78
CN 16
CN 36
TO DRIVER CN 35
CN 37
CN 38
TO DIF TRANS CN 39
TO TERMINAL CN 56
TO 45P CONNE CN 31
CN 32
CN 33
CN 34
TO REAR CN 68
CN59
CN 30
CN 72
CN 29
TO CAP MOTOR CN 42
CN 43
TO FRONT LED CN 47
CN 48
CN 49
TO SELECT SW CN 50
CN 51
CN 52
TO OPE2 J6
J7
TO JOG BOARD CN55
TO SUP REEL CN 40
TO TU REEL CN 41
TO FM PRE CN 44
TO A/C HEAD CN 45
CN 46
1
2
3
4
5
6
A
B
C
E
F
G
H

4.87 MOTHER CIRCUIT BOARD

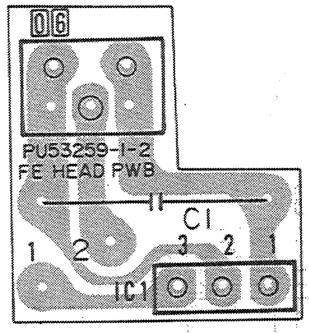


16 PRK10009 A B C-01 MOTHER BOARD PWB ASS'Y
PRK10009 -01-01 MOTHER BOARD PWB
▲ ⚠K7V-0
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN57
CN66
CN61(J1)
CN102(J12)
CN104(J14)
CN105(J15)
CN106(J16)
CN107(J17)
CN108(J20)
CN109(J20)
CN103(J13)
CN63(J3)
CN64(J4)
J1(CN61)
J3(CN63)
J4(CN64)
J20 (CN108,CN109)
J21
6
5
4
3
2
1
A
B
C
4-94
4-94
E
F
G
H

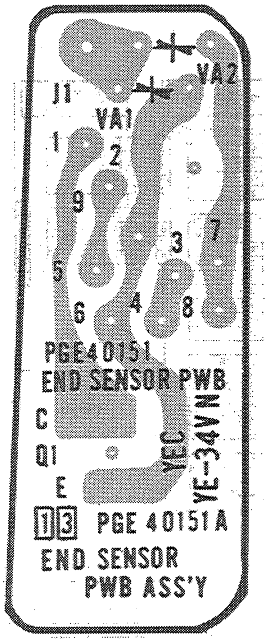
INSULATOR (B)
PRD30447
INSULATOR (A)
PRD30446
INSULATOR (C)
PRD30448

4.88 CIRCUIT BOARDS

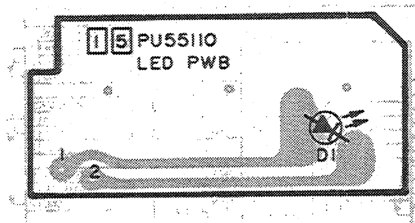
— FULL ERASE 06 —


06
PU53259-1-2
FE HEAD PWB
C1
1 2
3 2 1
IC1

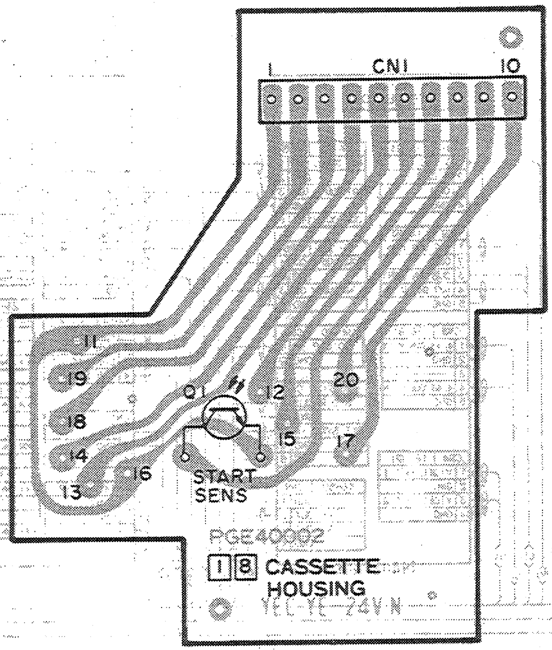
— END SENSOR 13 —


J1
VA1
VA2
1 2
9
3 7
5
6 4 8
PGE40151
END SENSOR PWB
C
Q1
E
YEC YE-34VN
13 PGE 40151A
END SENSOR
PWB ASS'Y

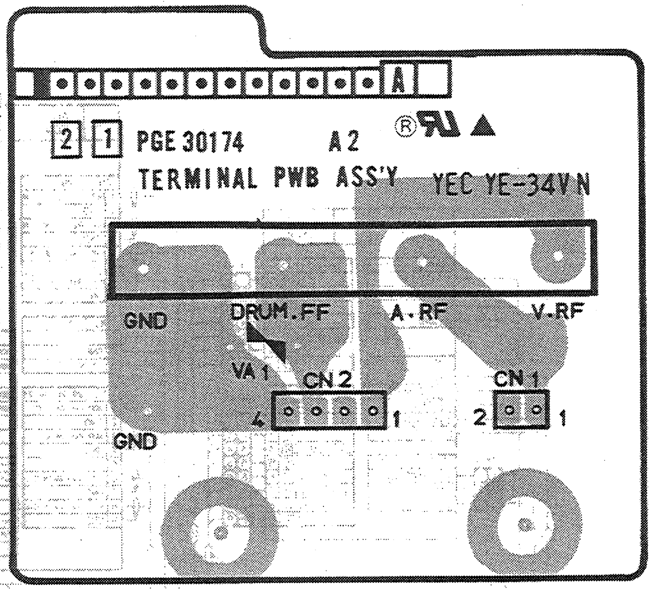
— LED 15 —


15 PU55110
LED PWB
1 2
D1

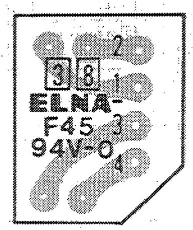
— CASSETTE HOUSING 18 —


1
CN1
10
11
19
18
14
13
16
Q1
START
SENS
12
15
20
17
PGE40002
18 CASSETTE
HOUSING
YEC YE-24VN

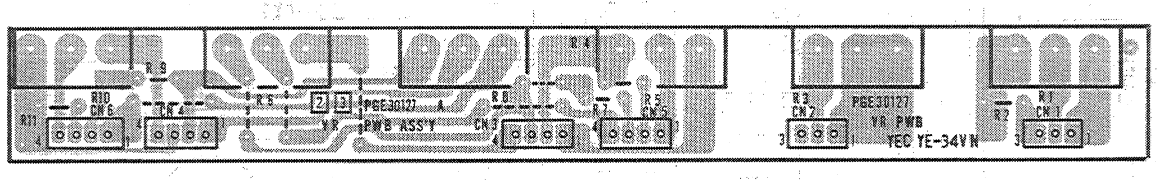
— BR-S611E TERMINAL 21 —


A
21 PGE 30174 A2
TERMINAL PWB ASS'Y
YEC YE-34VN
GND
DRUM.FF
A.RF
V.RF
VA1
CN2
4 1
CN1
2 1
GND

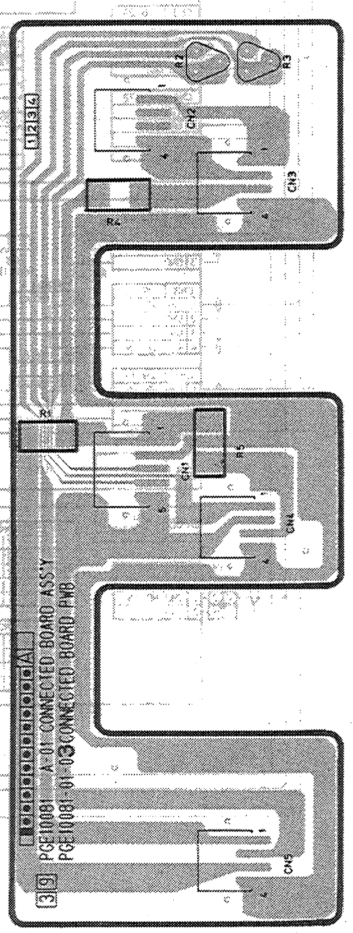
— PICK OUT DETECT 38 —


38
2
1
ELNA-
F45
94V-0
3
4

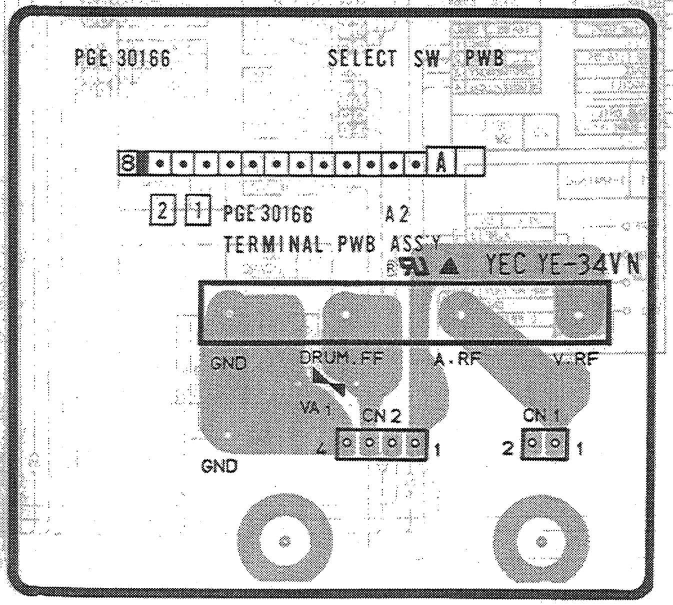
— VR 23 —


R9
R11
R10
CN6
CN4
R8
23 PGE30127 A
VR PWB ASS'Y
CN3
R6
R4
R7
R5
CN5
R3
CN7
PGE30127
VR PWB
YEC YE-34VN
R2
R1
CN1

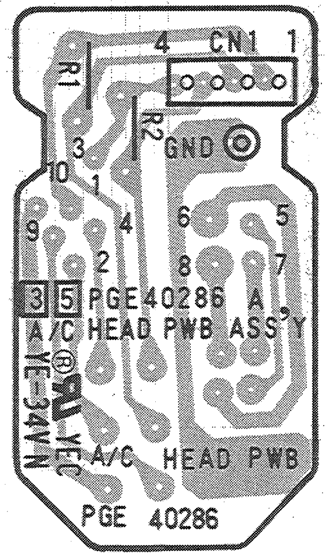
— CONNECTED 39 —


1234
R1
R2
CN2
CN3
R4
R5
CN4
CN6
A
PGE10081-A-01 CONNECTED BOARD ASS'Y
PGE10081-01-03 CONNECTED BOARD PWB
39
CN5

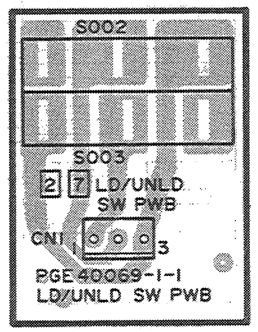
— BR-S811E TERMINAL 21 —


PGE 30166
SELECT SW PWB
8
A
21 PGE 30166 A2
TERMINAL PWB ASS'Y
YEC YE-34VN
GND
DRUM.FF
A.RF
V.RF
VA1
CN2
4 1
CN1
2 1
GND

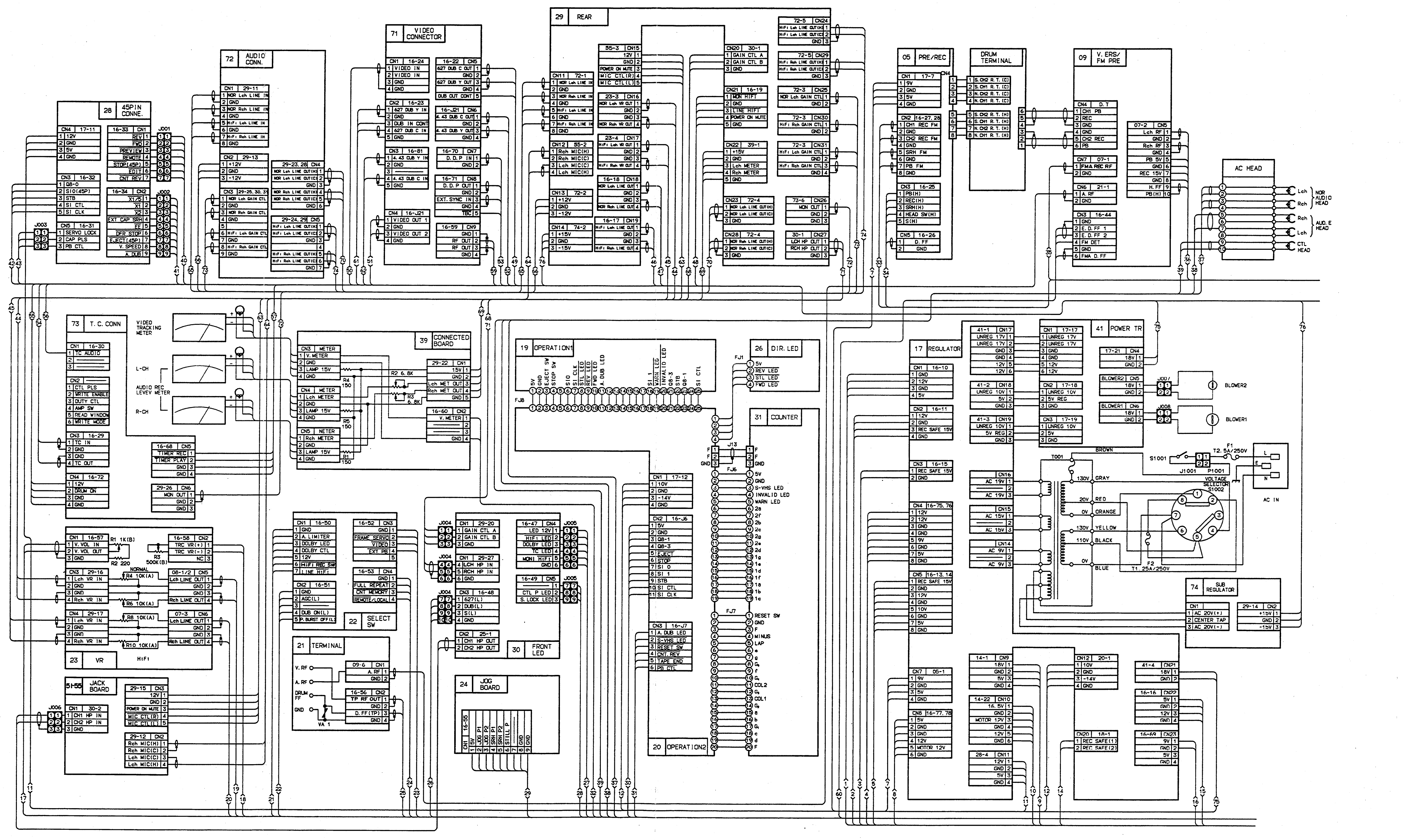
— A/C HEAD 35 —


4 CN1 1
R1
R2
GND
3
10
1
4
6
5
9
2
8
7
35 PGE40286 A
A/C HEAD PWB ASS'Y
YEC YE-34VN
A/C HEAD PWB
PGE 40286

— LOADING/UNLOADING SW 27 —

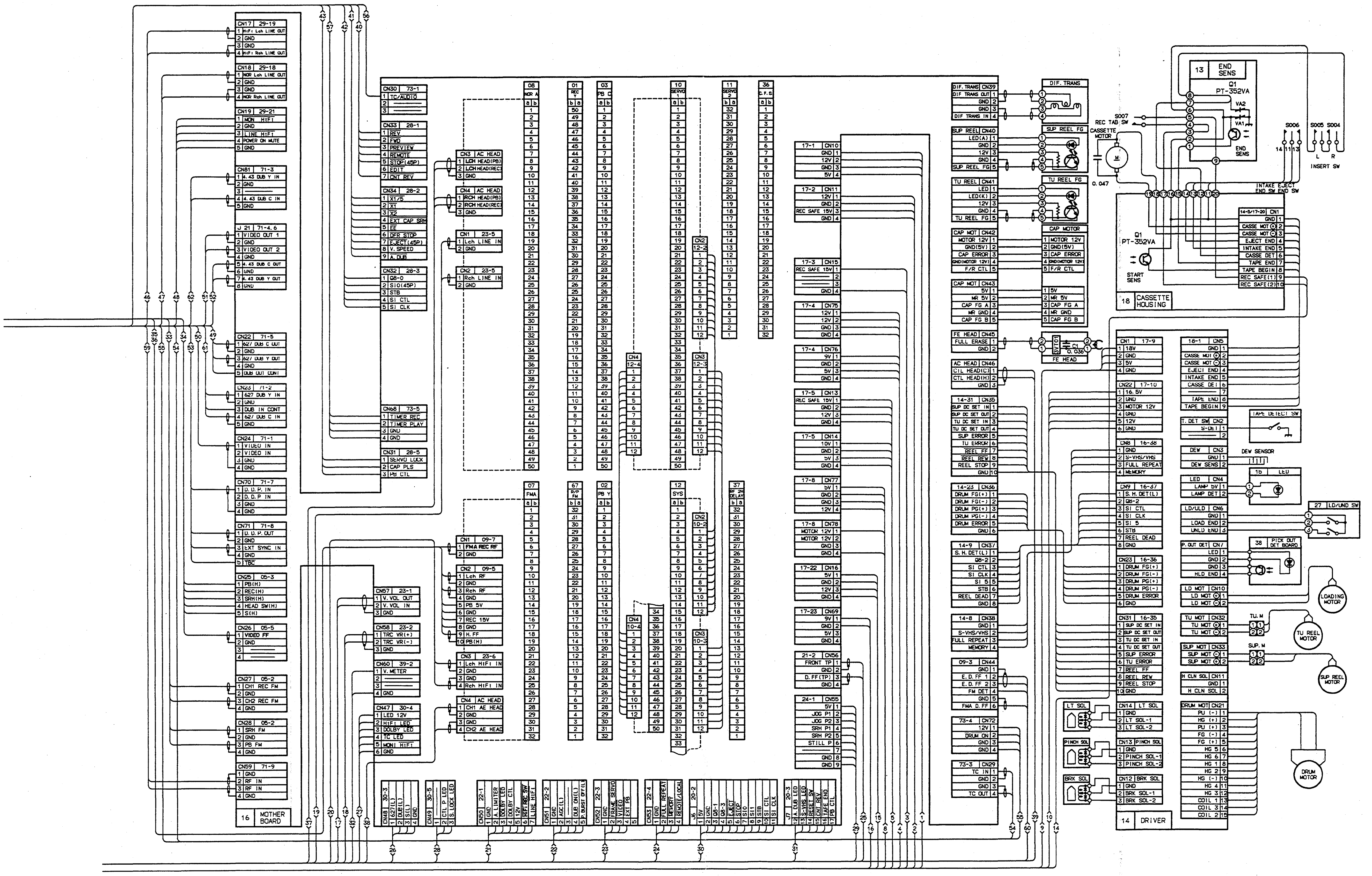

S002
S003
27 LD/UNLD
SW PWB
CN1
3
PGE40069-1-1
LD/UNLD SW PWB

4.89 BR-S611E OVERALL

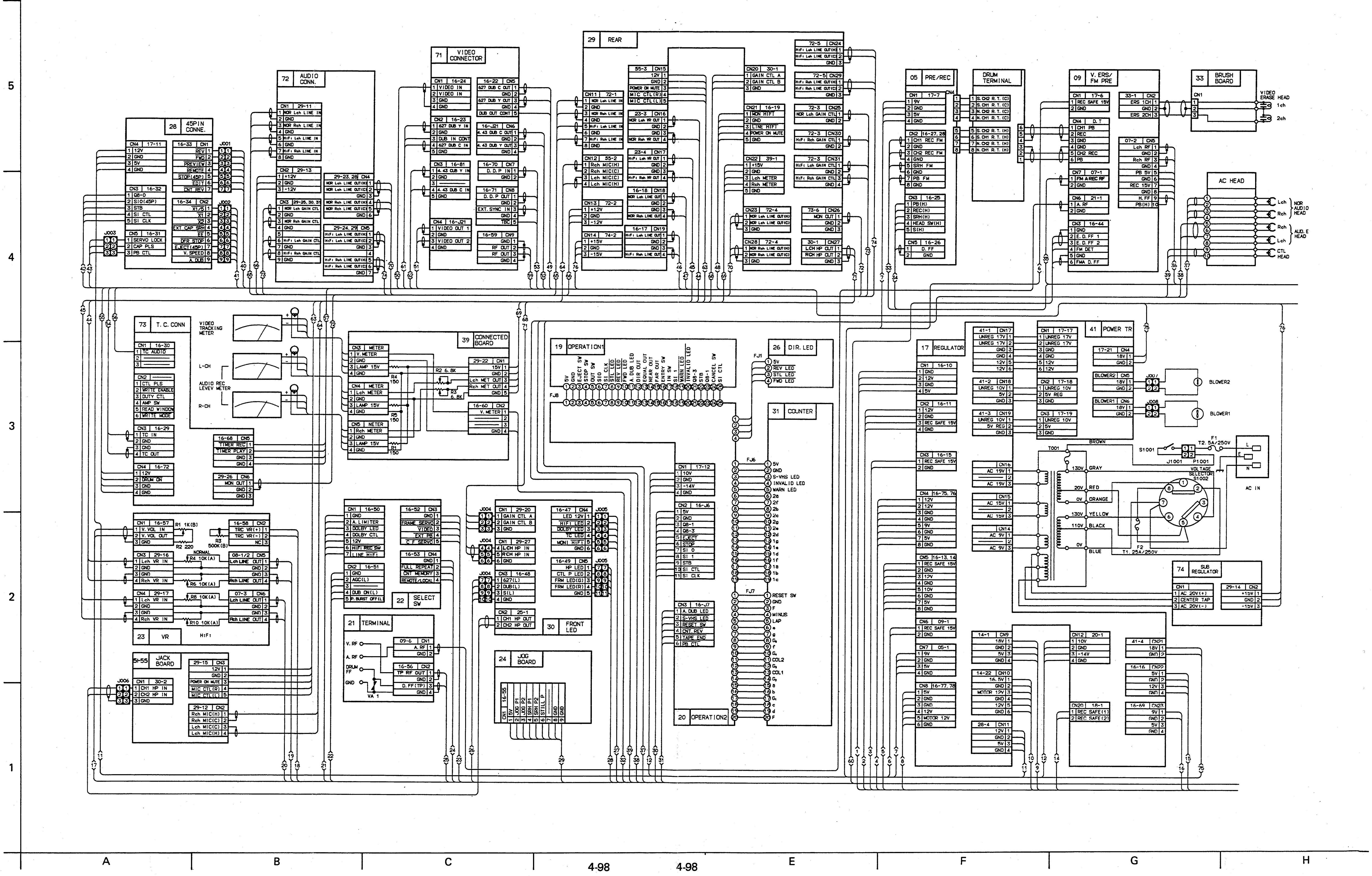


28 45PIN CONNE.
72 AUDIO CONN.
71 VIDEO CONNECTOR
29 REAR
05 PRE/REC
DRUM TERMINAL
09 V.ERS/ FM PRE
AC HEAD
Lch NOR AUDIO HEAD
Rch
Rch AUD.E HEAD
Lch
CTL HEAD
73 T.C.CONN
VIDEO TRACKING METER
L-CH
AUDIO REC LEVEV METER
R-CH
39 CONNECTED BOARD
19 OPERATION1
26 DIR.LED
31 COUNTER
17 REGULATOR
41 POWER TR
BLOWER2
BLOWER1
T001
BROWN
GRAY
RED
ORANGE
YELLOW
BLACK
BLUE
S1001
F1 T2.5A/250V
J1001
P1001
VOLTAGE SELECTOR S1002
F2 T1.25A/250V
AC IN
74 SUB REGULATOR
23 VR
51-55 JACK BOARD
22 SELECT SW
21 TERMINAL
24 JOG BOARD
30 FRONT LED
20 OPERATION2

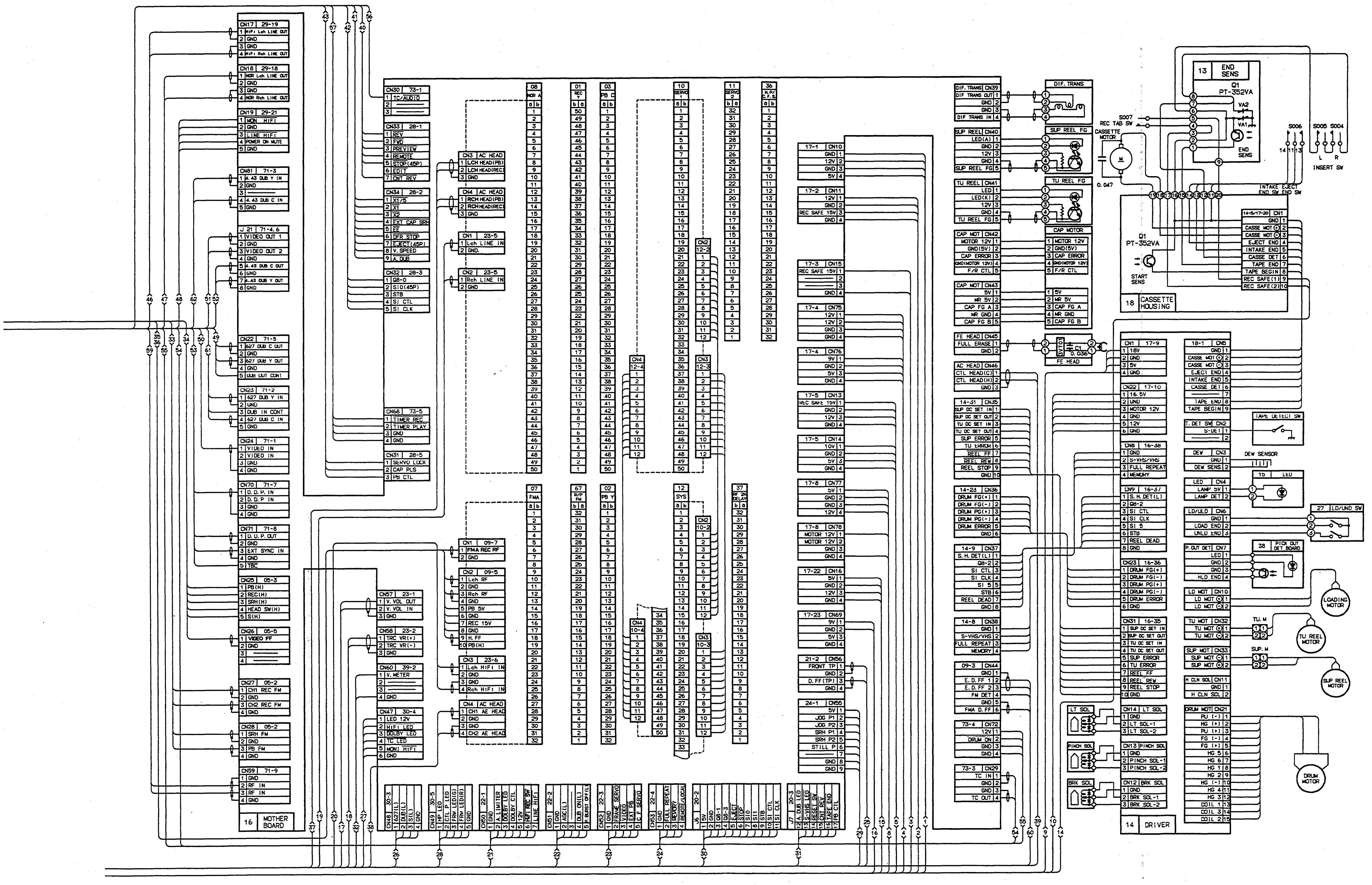
6
5
4
3
2
1
A
B
C
E
F
G
H


16 MOTHER BOARD
14 DRIVER
18 CASSETTE HOUSING
13 END SENS
Q1 PT-352VA
VA2
VA1
END SENS
START SENS
S007 REC TAB SW
CASSETTE MOTOR
0.047
S006 S005 S004
L R
INSERT SW
INTAKE EJECT END SW END SW
DIF. TRANS
SUP REEL FG
TU REEL FG
CAP MOTOR
FE HEAD
TAPE DETECT SW
DEW SENSOR
15 LED
27 LD/UND SW
38 PICK OUT DET BOARD
LOADING MOTOR
TU.M
TU REEL MOTOR
SUP. M
SUP REEL MOTOR
DRUM MOTOR
LT SOL
PINCH SOL
BRK SOL
CN17 29-19
CN18 29-18
CN19 29-21
CN81 71-3
J 21 71-4.6
CN22 71-5
CN23 71-2
CN24 71-1
CN70 71-7
CN71 71-8
CN25 05-3
CN26 05-5
CN27 05-2
CN28 05-2
CN59 71-9
CN30 73-1
CN33 28-1
CN34 28-2
CN32 28-3
CN68 73-5
CN31 28-5
CN57 23-1
CN58 23-2
CN60 39-2
CN47 30-4
CN3 AC HEAD
CN4 AC HEAD
CN1 23-5
CN2 23-5
CN1 09-7
CN2 09-5
CN3 23-6
CN4 AC HEAD
CN48 30-3
CN49 30-5
CN50 22-1
CN51 22-2
CN52 22-3
CN53 22-4
J6 20-2
J7 20-3
I
J
K
L
M
N
O
P

4.90 BR-S811E OVERALL



28 45PIN CONNE.
72 AUDIO CONN.
71 VIDEO CONNECTOR
29 REAR
05 PRE/REC
DRUM TERMINAL
09 V. ERS/ FM PRE
33 BRUSH BOARD
VIDEO ERASE HEAD
AC HEAD
73 T.C. CONN
VIDEO TRACKING METER
L-CH
AUDIO REC LEVEV METER
R-CH
39 CONNECTED BOARD
19 OPERATION1
26 DIR. LED
31 COUNTER
17 REGULATOR
41 POWER TR
BLOWER2
BLOWER1
AC IN
74 SUB REGULATOR
23 VR
51-55 JACK BOARD
22 SELECT SW
21 TERMINAL
30 FRONT LED
24 JOG BOARD
20 OPERATION2
6
5
4
3
2
1
A
B
C
D
E
F
G
H


16 MOTHER BOARD
14 DRIVER
18 CASSETTE HOUSING
13 END SENS
Q1 PT-352VA
START SENS
CASSETTE MOTOR
REC TAB SW
INSERT SW
DIF. TRANS
SUP REEL FG
TU REEL FG
CAP MOTOR
FE HEAD
TAPE DETECT SW
DEW SENSOR
27 LD/UND SW
38 PICK OUT DET BOARD
LOADING MOTOR
TU REEL MOTOR
SUP REEL MOTOR
DRUM MOTOR
LT SOL
PINCH SOL
BRK SOL
INTAKE EJECT END SW END SW

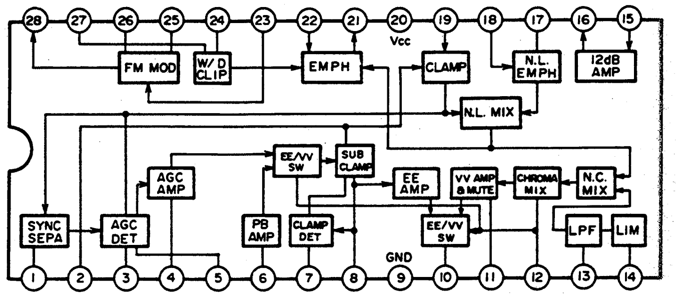
I	J	K	L	M	N	O	P

4-99 4-99

4.91 IC BLOCK DIAGRAM

– AN3212S –

VTR Video Signal Processing Circuit

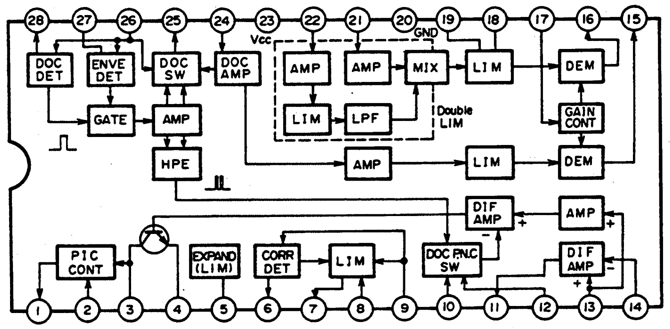

FM MOD
W/D CLIP
EMPH
CLAMP
N.L. EMPH
12dB AMP
N.L. MIX
Vcc
EE/VV SW
SUB CLAMP
AGC AMP
EE AMP
VV AMP 8 MUTE
CHROMA MIX
N.C. MIX
SYNC SEPA
AGC DET
PB AMP
CLAMP DET
EE/VV SW
LPF
LIM
GND

[Terminal Description]

Pin No.	Description	Pin No.	Description
1	Sync Tip Level Det.	15	12dB Amp In
2	Sync Out	16	12dB Amp Out
3	EE Level Adj.	17	Non Linear Emphasis Sub In
4	REC Video Signal In	18	PG & 2/4/6H Select
5	AGC Det.	19	Main Clamp In
6	PB Video Signal In	20	Vcc
7	Sub Clamp Det.	21	Main Emphasis Out
8	Sub Clamp Out.	22	FB Amp In
9	GND	23	MOD In
10	EE/VV Out	24	Dark Clip Level Adj.
11	Dummy Sync Pulse In	25	MOD
12	PB Chroma In	26	MOD
13	Noise Canceller L.P.F.	27	White Clip Level Adj.
14	Noise Canceller H.P.F In	28	FM Out

– AN3322S –

VTR Luminance Signal Processing Circuit

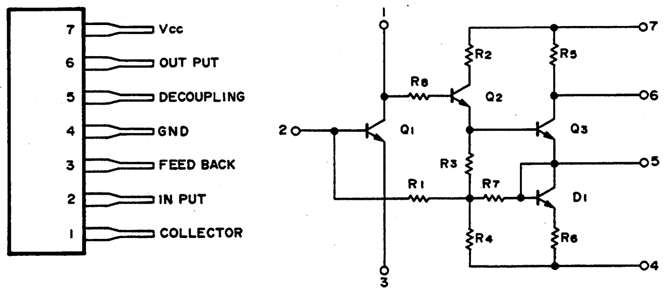

DOC DET
ENVE DET
DOC SW
DOC AMP
Vcc
AMP
AMP
MIX
LIM
DEM
GND
GATE
AMP
LIM
LPF
Double LIM
GAIN CONT
HPE
AMP
LIM
DEM
DIF AMP
AMP
PIC CONT
EXPAND (LIM)
CORR DET
LIM
DOC P.N.C SW
DIF AMP

[Terminal Description]

Pin No.	Description	Pin No.	Description
1	Video Out	15	DEM (1HDL) Out
2	Picture Control	16	DEM Out
3	Deemphasis	17	DEM Gain Control
4	Peaking	18	LIM
5	Expand	19	LIM
6	Corr Pulse Out	20	GND
7	Line N. C. LIM Out	21	Double LIM LPF In
8	Vcc	22	Double LIM HPF In
9	Line N.C. LIM In	23	Vcc
10	Diff Signal In	24	1H Delay RF In
11	Diff Signal Out	25	RF Out
12	Limited Signal In	26	RF In
13	Video In	27	Envelop DET
14	Video (1 HDL) In	28	DOC Pulse Out

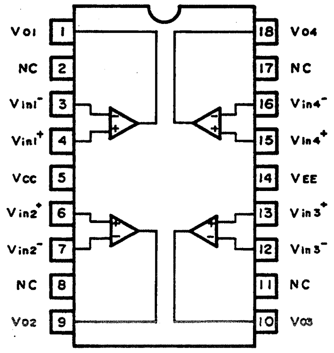
– AN360 –

Low Noise Pre-Amplifier Circuit


7 Vcc
6 OUT PUT
5 DECOUPLING
4 GND
3 FEED BACK
2 IN PUT
1 COLLECTOR
R2
R5
R8
Q2
Q1
Q3
R3
R1
R7
D1
R4
R6

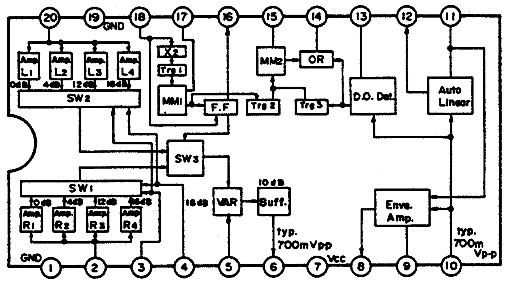
– AN1084S –

Quadruple J-FET Input Operational Amplifiers


Vo1
NC
Vin1⁻
Vin1⁺
Vcc
Vin2⁺
Vin2⁻
NC
Vo2
Vo4
NC
Vin4⁻
Vin4⁺
VEE
Vin3⁺
Vin3⁻
NC
Vo3

– AN3920S –

RF Amplifier Circuit for FM Audio

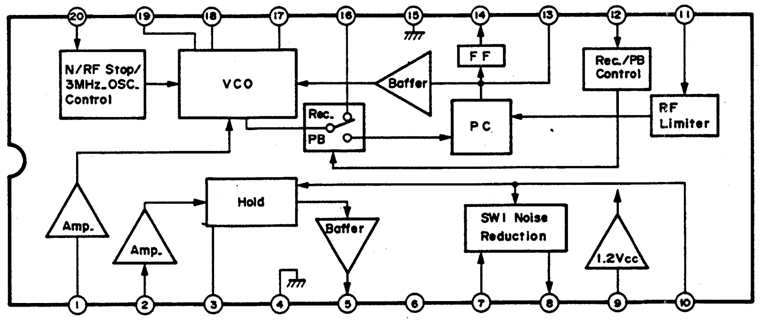

GND
SW2
MM2
OR
D.O. Det.
Auto Linear
MM1
F.F
SW3
SW1
VAR
Buff.
Enve. Amp.
typ. 700mVpp
Vcc
GND

[Terminal Description]

Pin No.	Description	Pin No.	Description
1	GND	11	Auto Linear Detection Terminal
2	RF (R-ch) Input Terminal	12	Linear High Output Terminal
3	6H High Input Terminal	13	D.O. Detection Terminal
4	+12dB High Input Terminal	14	S/H Output Terminal
5	Variable Amplifier Control Terminal	15	M.M. 2
6	RF Output Terminal	16	A.H. SW Output Terminal
7	Vcc	17	M.M. 1
8	Enve Output Terminal	18	H. SW Input Terminal
9	Enve Detection Terminal	19	GND
10	RF Input Terminal	20	RF (L-ch) Input Terminal

– AN3922NS –

FM Audio Signal Processing Circuit

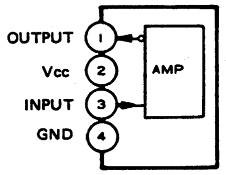

N/RF Stop/ 3MHz. OSC. Control
VCO
Buffer
F F
Rec./PB Control
Rec.
PB
P C
RF Limiter
Hold
Amp.
Amp.
Buffer
SW1 Noise Reduction
1/2Vcc

[Terminal Description]

Pin No.	Description	Pin No.	Description
1	Audio Signal Input on Rec. Mode	11	RF Signal Input on PB Mode
2	Hold Amp. Input Terminal	12	Rec./PB Control
3	Hold Control	13	FM Demodulation Control
4	GND (Audio)	14	FM Demodulation Output
5	Hold Output Terminal	15	GND (RF)
6	Vcc	16	FM Modulation Output
7	Switchig Noise Reduction Input Terminal	17	VCO Frequency Adjustment
8	Switching Noise Reduction Output Terminal	18	VCO Capacitance
9	1/2 Vcc	19	VCO Capacitance
10	Hold Pulse Input Terminal	20	VCO Oscillation Control

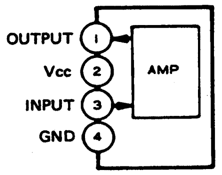
– AN607P –

Wide Band Amplifier Circuit


OUTPUT 1
Vcc 2
INPUT 3
GND 4
AMP

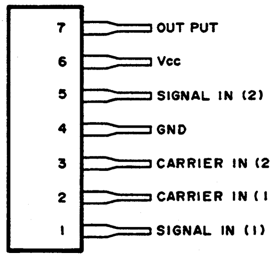
– AN608P –

Wide Band Amplifier Circuit


OUTPUT 1
Vcc 2
INPUT 3
GND 4
AMP

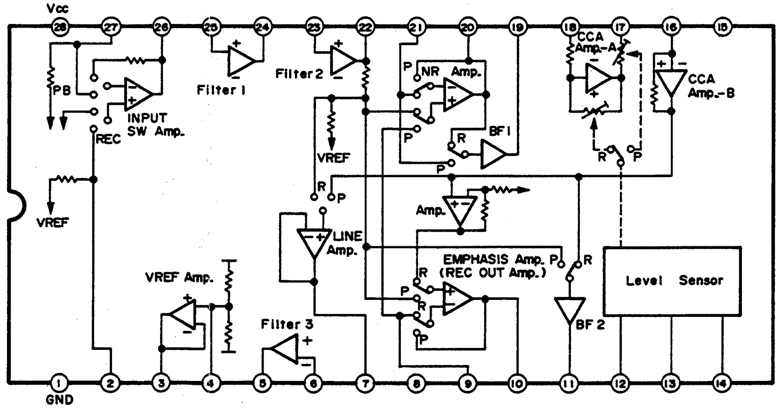
– AN614 –

Video Amplifier, Balance Modulator


7 OUT PUT
6 Vcc
5 SIGNAL IN (2)
4 GND
3 CARRIER IN (2)
2 CARRIER IN (1)
1 SIGNAL IN (1)

– AN6298NS –

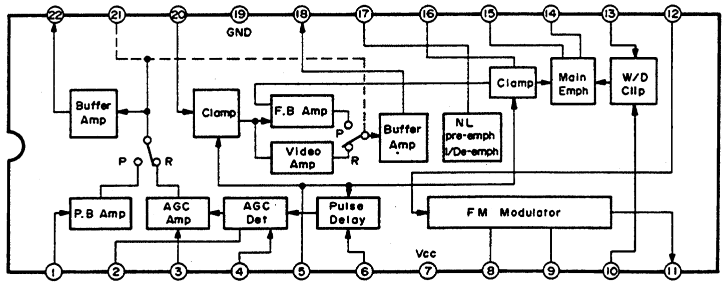
Peak-Noise-Reduction System for Hi-Fi VHS VTRs


Vcc
PB
REC
INPUT SW Amp.
Filter I
Filter 2
NR Amp.
CCA Amp.-A
CCA Amp.-B
BF1
VREF
LINE Amp.
Amp.
EMPHASIS Amp. (REC OUT Amp.)
Level Sensor
VREF Amp.
Filter 3
BF 2
GND

[Terminal Description]

Pin No.	Description	Pin No.	Description
1	GND	15	Encode Decode SW
2	Encode Input	16	CCA Amp. Input
3	Reference Voltage-1	17	CCA Gain Cell Output
4	Reference Voltage-2	18	CCA Gain Cell Input
5	Filter Amp. 3 Output	19	BF Amp. 1 Output
6	Filter Amp. 3 Input	20	NR-Emphasis-Amp. Output
7	Line Output	21	NR-Emphasis
8	Rec. Mute SW	22	Filter Amp. 2 Output
9	Output Emphasis	23	Filter Amp. 2 Input
10	Encode Output	24	Filter Amp. 1 Output
11	BF Amp. 2 Output	25	Filter Amp. 1 Input
12	Level Sensor Input	26	Input SW-Amp. Output
13	Timing Condensor	27	Decode Input
14	Recovery	28	Vcc

– AN6306S –

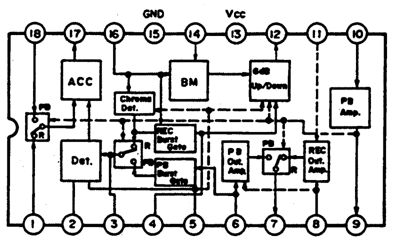

GND
Buffer Amp
Clamp
F.B Amp
Video Amp
Buffer Amp
NL pre-emph /De-emph
Clamp
Main Emph
W/D Clip
P.B Amp
AGC Amp
AGC Det
Pulse Delay
F M Modulator
Vcc

[Terminal Description]

Pin No.	Description	Pin No.	Description
1	PB Video Input	12	FM Mod. Input
2	AGC Det.	13	Dark Clip Adj
3	REC Video Input	14	Main Empha. Output
4	EE Adj	15	Main Empha. NF Input
5	H. Sync. Input	16	Clamp Input (FB)
6	Pulse Delay Timing	17	Non Linear Empha.
7	Vcc	18	Video Output
8	FM Modulator	19	GND
9	FM Modulator	20	Clamp Input
10	White Clip Adj	21	REC/PB Select
11	FM Mod. Output	22	EE Output

– AN6360 –

VTR Color ACC Circuit

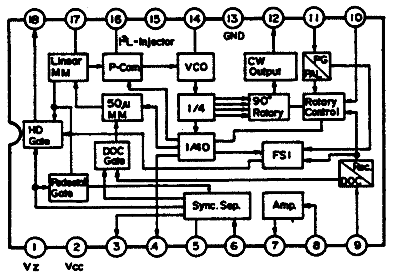

GND
Vcc
ACC
BM
6dB Up/Down
PB Amp.
Det.
Chroma Det.
REC Burst Gate
PB Burst Gate
PB Out Amp.
REC Out Amp.

[Terminal Description]

Pin No.	Description	Pin No.	Description
1	ACC Rec. Input	10	P.B. Amp. Input
2	Burst Detect	11	Rec. Current Select
3	Burst Output	12	B.M. Output
4	Burst Gate Pulse Input	13	Vcc
5	Chroma Select Burst 6dB up/down Select	14	Carrier Input
6	Output Amp. P.B. Chroma Input	15	GND
7	Chroma Output	16	Signal Input
8	Output Amp. Rec. Chroma Input C/B/W Select	17	ACC Output
9	P.B. Amp. Output R/P.B. Select	18	ACC P.B. Input

– AN6362 –
– AN6362S –

VTR Color AFC Circuit


I²L-Injector
GND
Linear MM
P-Com
VCO
CW Output
50µ MM
1/4
90° Rotary
Rotary Control
HD Gate
DOC Gate
1/40
FSI
Pedestal Gate
Sync. Sep.
Amp.
Rec DOC
Vz
Vcc

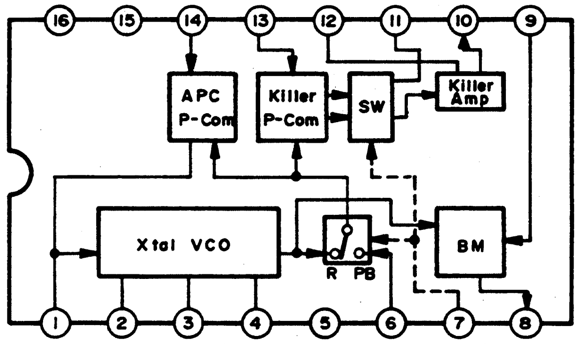
[Terminal Description]

Pin No.	Description	Pin No.	Description
1(1)	Zener Voltage	10(12)	ID Input
2(2)	Vcc	11(13)	PG Input (Head SW)
3(4)	Vss Output for V Sync.	12(15)	CW Output (630 kHz)
4(5)	Sync. Front Pulse Output	13(16)	GND
5(6)	Low Pass Filter	14(17)	VCO Control
6(7)	Sync. Sep. Input	15(18)	I²L Injector
7(8)	White Clip Output	16(19)	P-Com. Filter
8(10)	Video Input	17(21)	Linear Mono. Multi.
9(11)	Rec./DOC Select	18(22)	HD Output for Burst Gate

Note : Figures in (   ) indicate pin numbers of AN6362S.

– AN6371 –
– AN6371S –

VTR Color APC Circuit


APC P-Com
Killer P-Com
SW
Killer Amp
Xtal VCO
R
PB
BM

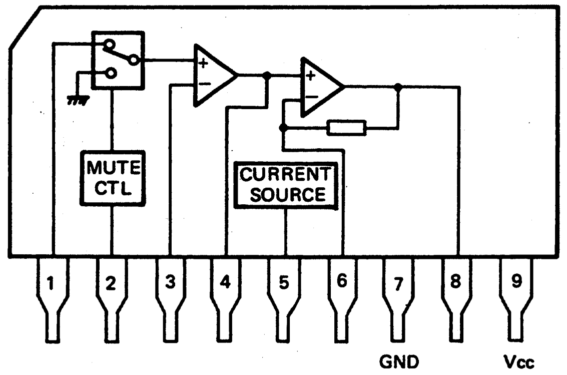
[Terminal Description]

Pin No.	Description	Pin No.	Description
1(1)	APC Filter	9(12)	627 kHz Input
2(3)	X'tal Osc.	10(13)	Killer Output
3(4)		11(15)	ID Detect
4(5)		12(16)	Killer Detect
5(6)	Vcc	13(17)	Killer Burst Input
6(7)	4.43 MHz Input	14(19)	APC Burst Input
7(9)	Rec./P.B. Select	15(20)	GND
8(11)	5.06 MHz Output	16(22)	Killer Filter

Note : Figures in (   ) indicate pin numbers of AN6371S.

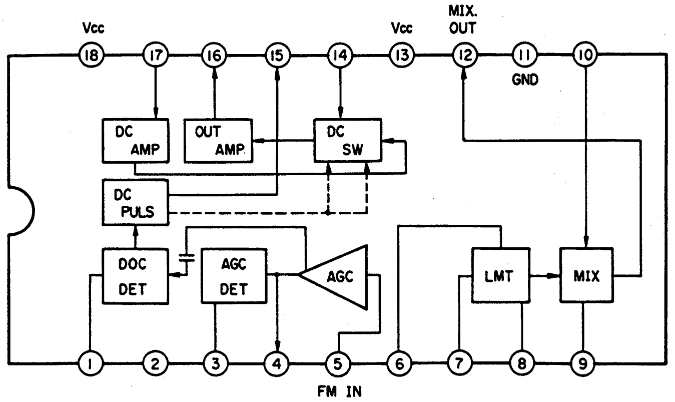
– AN6392 –

VTR REC Amplifier


MUTE CTL
CURRENT SOURCE
GND
Vcc

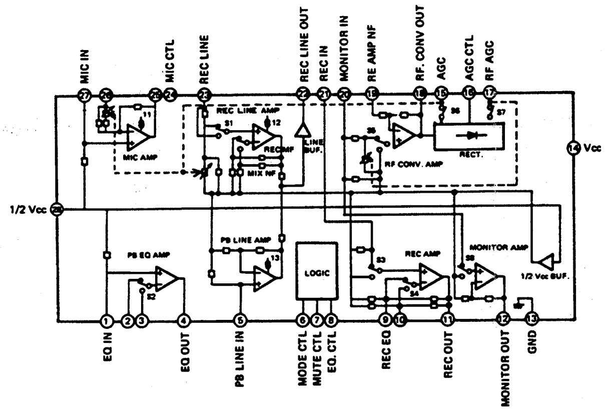
– AN6393 –

VTR Luminance Signal Processing Circuit


Vcc
Vcc
MIX. OUT
GND
DC AMP
OUT AMP
DC SW
DC PULS
DOC DET
AGC DET
AGC
LMT
MIX
FM IN

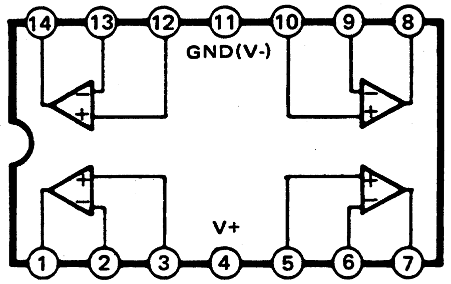
– AN6394 –

VTR Audio REC/PB Circuit


MIC IN
MIC CTL
REC LINE
REC LINE OUT
REC IN
MONITOR IN
RE AMP NF
RF. CONV OUT
AGC
AGC CTL
RF AGC
REC LINE AMP
MIC AMP
RECNF
LINE BUF.
MIX NF
RF CONV. AMP
RECT.
Vcc
1/2 Vcc
PB EQ AMP
PB LINE AMP
LOGIC
REC AMP
MONITOR AMP
1/2 Vcc BUF.
EQ IN
EQ OUT
PB LINE IN
MODE CTL
MUTE CTL
EQ. CTL
REC EQ
REC OUT
MONITOR OUT
GND

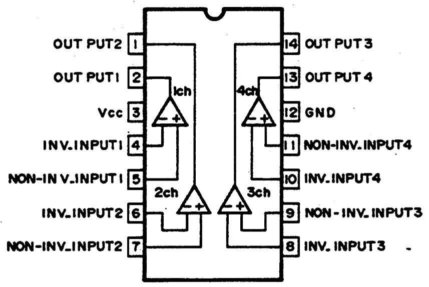
– BA10324F –

Quad Operational Amplifier



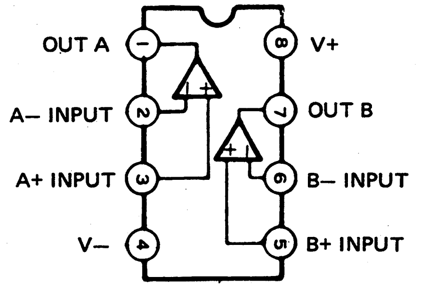
– BA10339F –

Quad Comparator


OUT PUT2
OUT PUT1
Vcc
INV.INPUT1
NON-INV.INPUT1
INV.INPUT2
NON-INV.INPUT2
OUT PUT3
OUT PUT4
GND
NON-INV.INPUT4
INV.INPUT4
NON-INV.INPUT3
INV. INPUT3
1ch
2ch
3ch
4ch

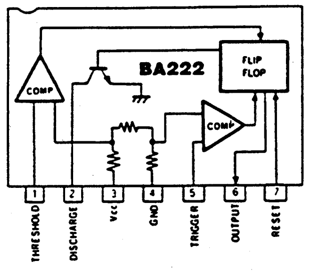
– BA10358F –

Dual Operation Amplifier


OUT A
A– INPUT
A+ INPUT
V–
V+
OUT B
B– INPUT
B+ INPUT

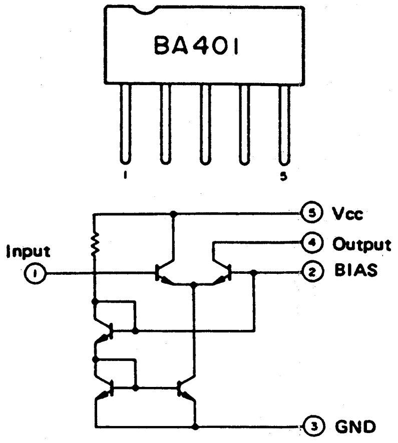
– BA222 –

Monolithic Timer


BA222
COMP
COMP
FLIP FLOP
THRESHOLD
DISCHARGE
Vcc
GND
TRIGGER
OUTPUT
RESET

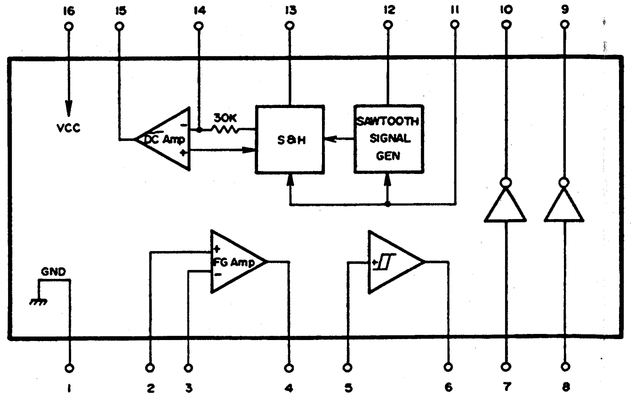
– BA401 –

FM-IF Differential Amplifier


BA401
1
5
Input
Vcc
Output
BIAS
GND

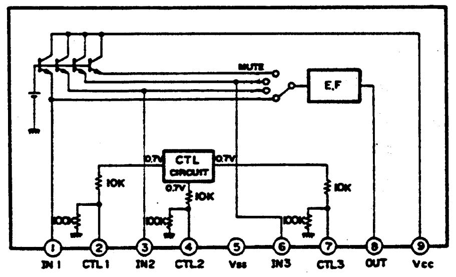
– BA6302A(F) –

VTR Motor-Speed Control Circuit


VCC
DC Amp
30K
S&H
SAWTOOTH SIGNAL GEN
FG Amp
GND

– BA7021 –

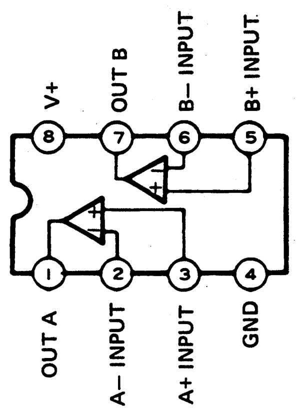
Video Signal Switcher


MUTE
E.F
CTL CIRCUIT
0.7V
10K
100K
IN 1
CTL 1
IN2
CTL2
Vss
IN3
CTL3
OUT
Vcc

CTL / 8PIN Out	2 PIN	4 PIN	7 PIN
INPUT 1	H	L	L
INPUT 2	L	H	L
INPUT 3	L	L	L

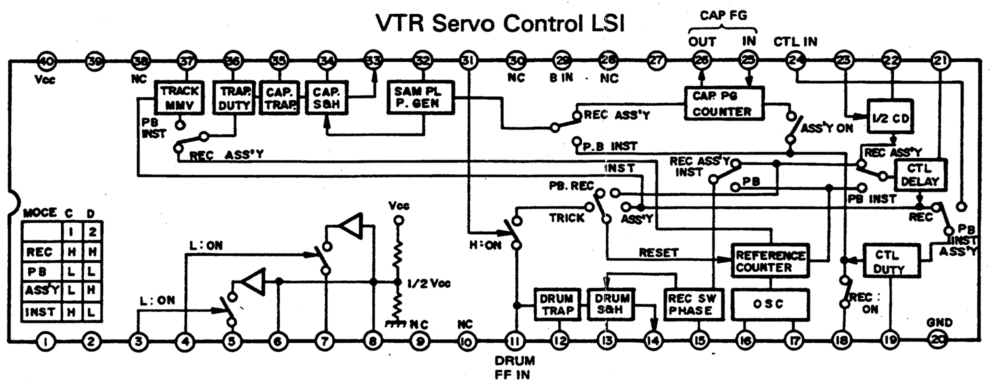
– BA6993F –

Dual Operational Amplifier


V+
OUT B
B– INPUT
B+ INPUT
8
7
6
5
1
2
3
4
OUT A
A– INPUT
A+ INPUT
GND

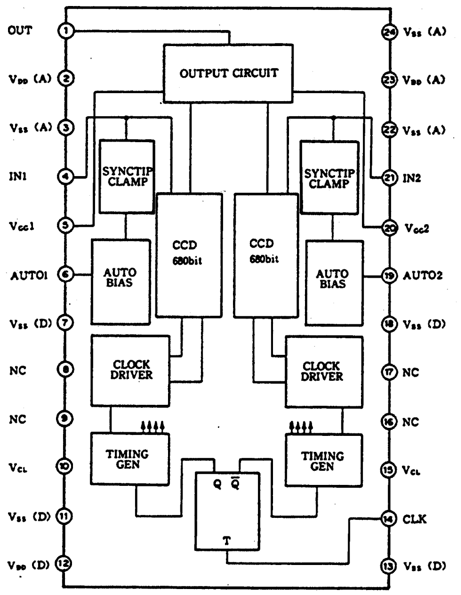
– BA833F –

VTR Servo Control LSI


CAP FG
OUT
IN
CTL IN
Vcc
NC
TRACK MMV
TRAP DUTY
CAP. TRAP
CAP. S&H
SAM PL P. GEN
NC
B IN
NC
CAP PG COUNTER
REC ASS'Y
1/2 CD
P.B INST
ASS'Y ON
REC ASS'Y
PB INST
INST
PB
CTL DELAY
PB INST
REC
PB INST
ASS'Y
PB. REC
TRICK
ASS'Y
RESET
REFERENCE COUNTER
CTL DUTY
REC ON
MODE C D
REC H H
PB L L
ASS'Y L H
INST H L
L: ON
H: ON
1/2 Vcc
DRUM TRAP
DRUM S&H
REC SW PHASE
OSC
GND
NC
DRUM FF IN

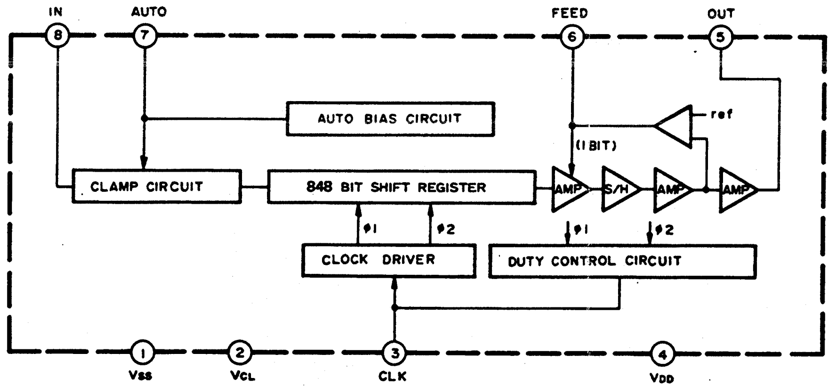
– CXL1004P –

CCD Signal Processor

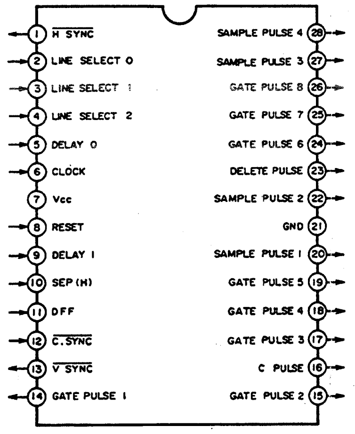

OUT
Vdd (A)
Vss (A)
IN1
Vcc1
AUTO1
Vss (D)
NC
NC
VCL
Vss (D)
Vdd (D)
OUTPUT CIRCUIT
SYNCTIP CLAMP
AUTO BIAS
CCD 680bit
CCD 680bit
SYNCTIP CLAMP
AUTO BIAS
CLOCK DRIVER
CLOCK DRIVER
TIMING GEN
TIMING GEN
Q
T
Vss (A)
Vdd (A)
Vss (A)
IN2
Vcc2
AUTO2
Vss (D)
NC
NC
VCL
CLK
Vss (D)

– CXL5003P –

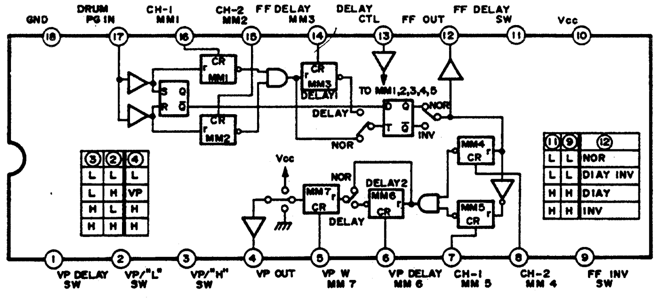
CMOS CCD 2H Delay Line


IN
AUTO
FEED
OUT
AUTO BIAS CIRCUIT
ref
(1 BIT)
CLAMP CIRCUIT
848 BIT SHIFT REGISTER
AMP
S/H
AMP
AMP
φ1
φ2
φ1
φ2
CLOCK DRIVER
DUTY CONTROL CIRCUIT
Vss
VCL
CLK
VDD

– EPS448PC-20(L02) –

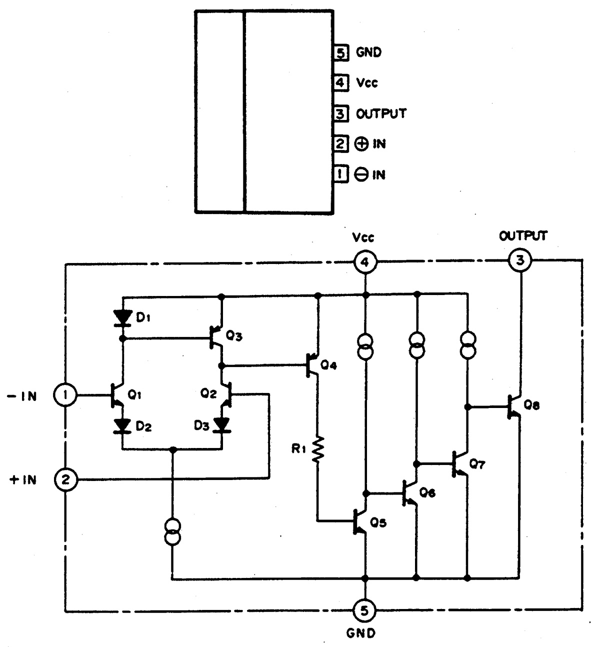

H SYNC
LINE SELECT 0
LINE SELECT 1
LINE SELECT 2
DELAY 0
CLOCK
Vcc
RESET
DELAY 1
SEP (H)
OFF
C. SYNC
V SYNC
GATE PULSE 1
SAMPLE PULSE 4
SAMPLE PULSE 3
GATE PULSE 8
GATE PULSE 7
GATE PULSE 6
DELETE PULSE
SAMPLE PULSE 2
GND
SAMPLE PULSE 1
GATE PULSE 5
GATE PULSE 4
GATE PULSE 3
C PULSE
GATE PULSE 2

– HA11780MP –


GND
DRUM PG IN
CH-1 MM1
CH-2 MM2
FF DELAY MM3
DELAY CTL
FF OUT
FF DELAY SW
Vcc
CR MM1
CR MM3 DELAY
TO MM1,2,3,4,5
DELAY
NOR
INV
CR MM2
MM4 CR
NOR
MM7 CR
DELAY2 MM6 CR
DELAY
MM5 CR
NOR
DIAY INV
DIAY
INV
VP DELAY SW
VP/"L" SW
VP/"H" SW
VP OUT
VP W MM 7
VP DELAY MM 6
CH-1 MM 5
CH-2 MM 4
FF INV SW

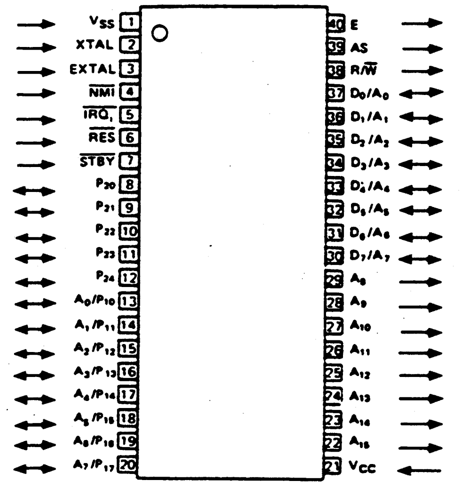
– M51204TL –

Comparator


5 GND
4 Vcc
3 OUTPUT
2 ⊕ IN
1 ⊖ IN
Vcc
OUTPUT
D1
Q3
Q4
–IN
Q1
Q2
D2
D3
Q8
+IN
R1
Q7
Q6
Q5
GND

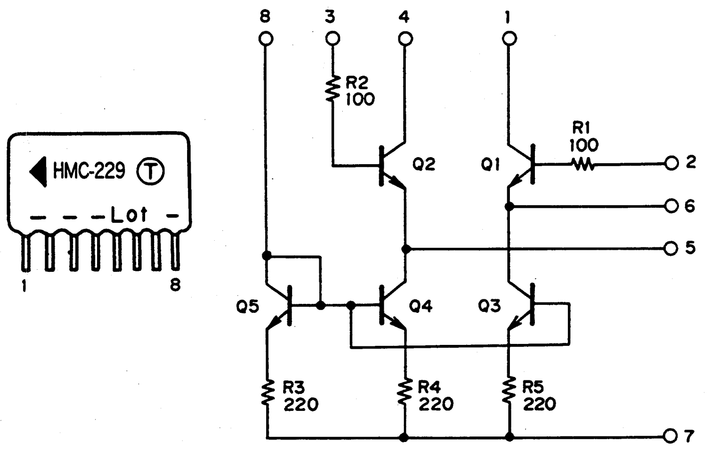
– HD6303RP –

MCU (Microcomputer Unit)


VSS 1
XTAL 2
EXTAL 3
NMI 4
IRQ1 5
RES 6
STBY 7
P20 8
P21 9
P22 10
P23 11
P24 12
A0/P10 13
A1/P11 14
A2/P12 15
A3/P13 16
A4/P14 17
A5/P15 18
A6/P16 19
A7/P17 20
40 E
39 AS
38 R/W
37 D0/A0
36 D1/A1
35 D2/A2
34 D3/A3
33 D4/A4
32 D5/A5
31 D6/A6
30 D7/A7
29 A8
28 A9
27 A10
26 A11
25 A12
24 A13
23 A14
22 A15
21 VCC

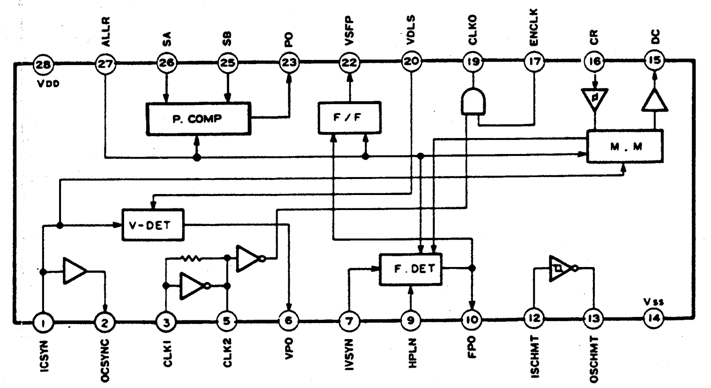
TOP VIEW

– HMC-229 –


HMC-229
Lot
1
8
3
4
1
R2 100
Q2
Q1
R1 100
2
6
5
Q5
Q4
Q3
R3 220
R4 220
R5 220
7

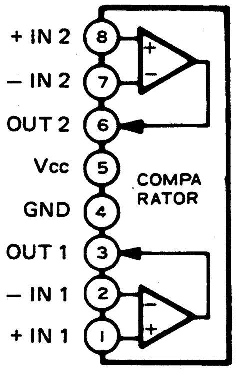
– MN50005JVES –

Frame Detector


ALLR
SA
SB
PO
VSFP
VDLS
CLKO
ENCLK
CR
DC
VDD
P. COMP
F/F
M. M
V-DET
F. DET
Vss
ICSYN
OCSYNC
CLK1
CLK2
VPO
IVSYN
HPLN
FPO
ISCHMT
OSCHMT

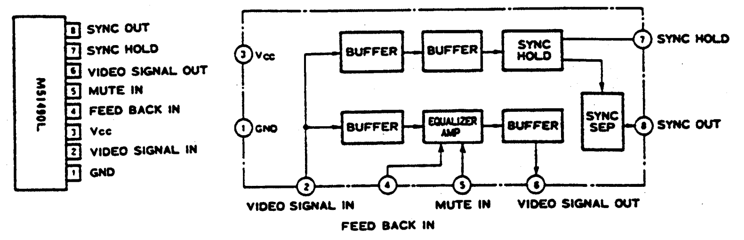
– M51207L –

Dual Comparator


+ IN 2
– IN 2
OUT 2
Vcc
GND
OUT 1
– IN 1
+ IN 1
COMPA RATOR

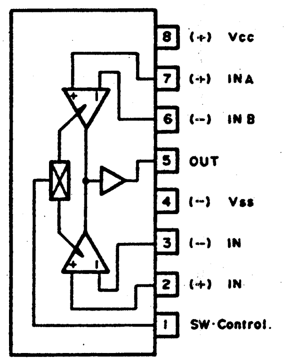
– M51490L –

Video Equalizer


M51490L
SYNC OUT
SYNC HOLD
VIDEO SIGNAL OUT
MUTE IN
FEED BACK IN
Vcc
VIDEO SIGNAL IN
GND
BUFFER
BUFFER
SYNC HOLD
BUFFER
EQUALIZER AMP
BUFFER
SYNC SEP
SYNC HOLD
SYNC OUT
VIDEO SIGNAL IN
MUTE IN
VIDEO SIGNAL OUT
FEED BACK IN

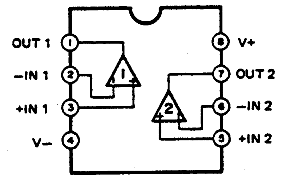
– M5201L –

Switch Opeamp

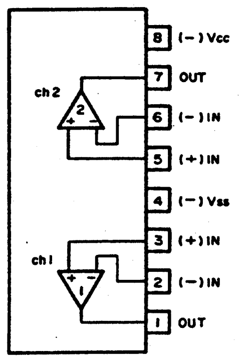

(+) Vcc
(+) INA
(–) IN B
OUT
(–) Vss
(–) IN
(+) IN
SW-Control.

– M5216FP –

Dual Operational Amplifier

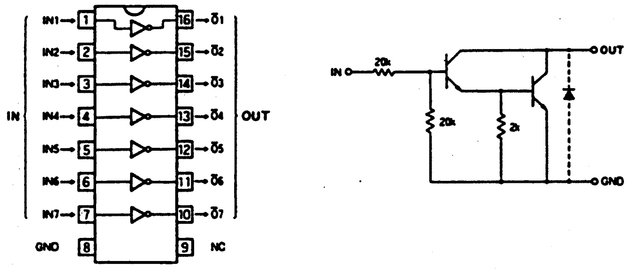

OUT 1
–IN 1
+IN 1
V–
V+
OUT 2
–IN 2
+IN 2

– M5220L –


ch2
ch1
(–) Vcc
OUT
(–) IN
(+) IN
(–) Vss
(+) IN
(–) IN
OUT

– M54519P –

7-Unit 400 mA Darlingron Transistor Array

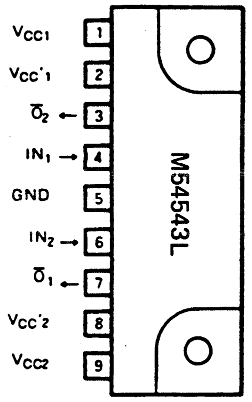

IN
IN1
IN2
IN3
IN4
IN5
IN6
IN7
GND
Ō1
Ō2
Ō3
Ō4
Ō5
Ō6
Ō7
NC
OUT
IN
20k
20k
2k
OUT
GND

– M54543L –

Bi-Directional Motor Driver With Brake Function

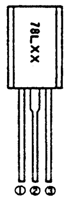
TRUTH TABLE

INPUT		OUTPUT	
IN_1	IN_2	$\overline{O}_1$	$\overline{O}_2$
L	L	"OFF" state	"OFF" state
H	L	H	L
L	H	L	H
H	H	L	L


Vcc1
Vcc'1
Ō2
IN1
GND
IN2
Ō1
Vcc'2
Vcc2
M54543L

– M5278L05 –

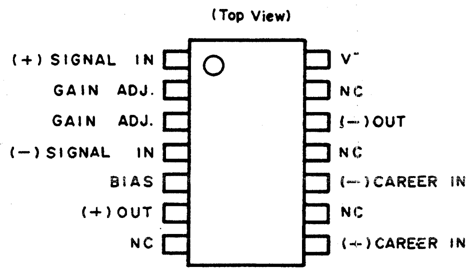
Regulator



① OUT
② COMMON
③ IN

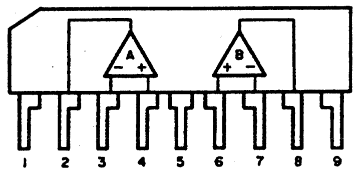
– NJM1496D –

Double Balanced Mod/Demodulator


(Top View)
(+) SIGNAL IN
GAIN ADJ.
GAIN ADJ.
(–) SIGNAL IN
BIAS
(+) OUT
NC
V⁻
NC
(–) OUT
NC
(–) CAREER IN
NC
(–) CAREER IN

– NJM2068S-D –

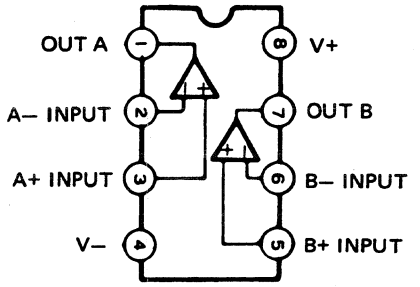
Dual Operational Amplifier


A
B
1
2
3
4
5
6
7
8
9

1. V⁺
2. A OUTPUT
3. A–INPUT
4. A+INPUT
5. V⁻
6. B+INPUT
7. B–INPUT
8. B OUTPUT
9. V⁺

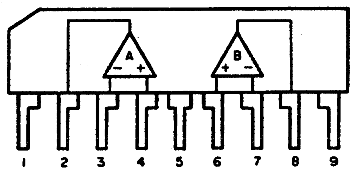
– NJM2068MD –

Dual Operation Amplifier


OUT A
A– INPUT
A+ INPUT
V–
V+
OUT B
B– INPUT
B+ INPUT

– NJM4556S –

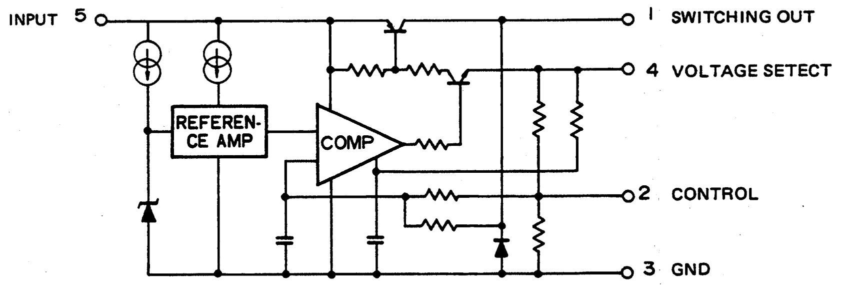
Dual Opeamp


A
B
1
2
3
4
5
6
7
8
9

1. V⁺
2. A OUTPUT
3. A–INPUT
4. A+INPUT
5. V⁻
6. B+INPUT
7. B–INPUT
8. B OUTPUT
9. V⁺

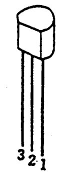
– STR2012A –

Chopper Regulator


INPUT 5
REFEREN-CE AMP
COMP
1 SWITCHING OUT
4 VOLTAGE SETECT
2 CONTROL
3 GND

– NJM78L05D –

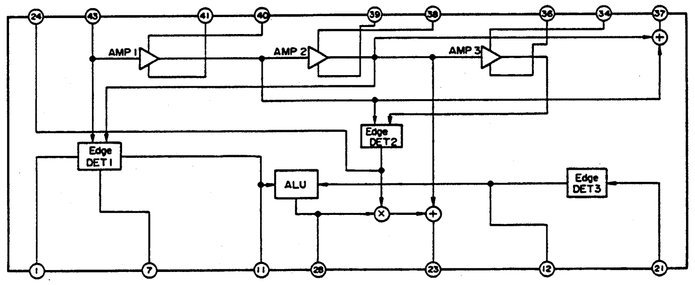
Regulator



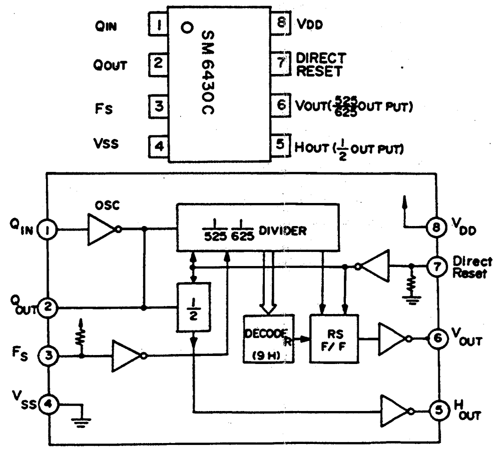
1 IN
2 GND
3 OUT

– PB20225A –

Colour Enhancer

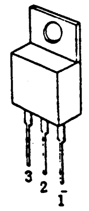

AMP 1
AMP 2
AMP 3
Edge DET 1
Edge DET2
Edge DET3
ALU
24
43
41
40
39
38
36
34
37
1
7
11
28
23
12
21

– SM6430C –


QIN
QOUT
Fs
VSS
SM 6430C
VDD
DIRECT RESET
VOUT(1/525 1/625 OUT PUT)
HOUT (1/2 OUT PUT)
OSC
1/525 1/625 DIVIDER
1/2
DECODE R (9 H)
RS F/F
Q IN
Q OUT
Fs
Vss
VDD
Direct Reset
VOUT
HOUT

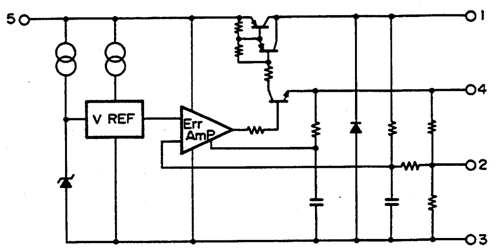
– NJM7809K –

Regulator



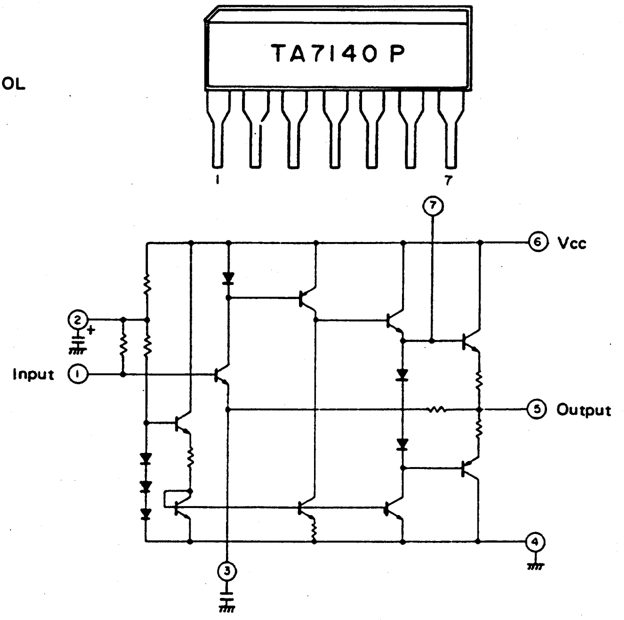
1 OUT
2 GND
3 IN

– STR2124 –


5
1
4
2
3
V REF
Err Amp

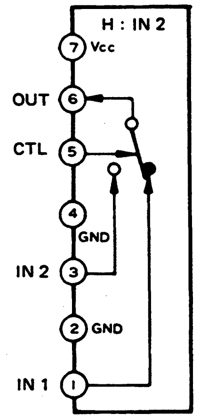
– TA7140P –

Voltage Amplifier


TA7140 P
1
7
7
6 Vcc
2
Input 1
5 Output
3
4

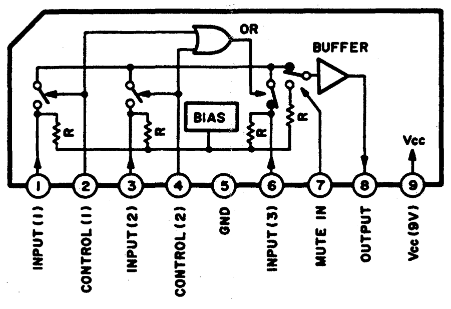
– TA7347P –

2-Input Switch


H : IN 2
7 Vcc
OUT 6
CTL 5
4 GND
IN 2 3
2 GND
IN 1 1

– TA7348P –

3-Input Switch

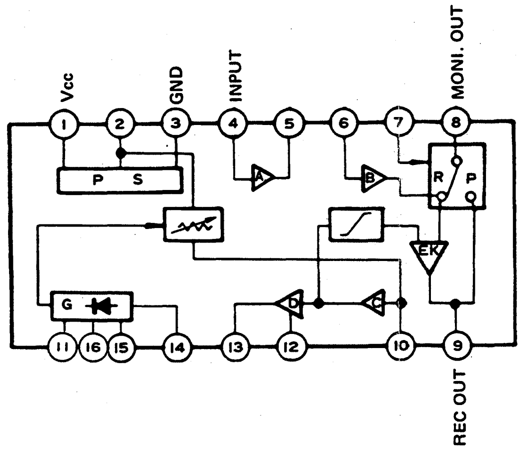

OR
BUFFER
BIAS
R
Vcc
INPUT (1)
CONTROL (1)
INPUT (2)
CONTROL (2)
GND
INPUT (3)
MUTE IN
OUTPUT
Vcc (9V)

[Truth Table]

CONTROL (1) 2 Pin	CONTROL (2) 4 Pin	MUTE INPUT 7 Pin	OUTPUT 8 Pin
H	L	L	INPUT(1)
L	H	L	INPUT(2)
L	L	L	INPUT(3)

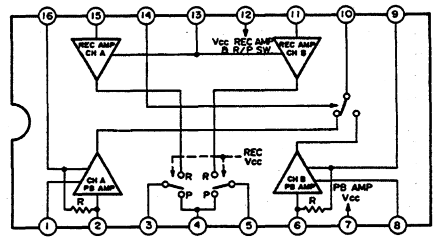
– TA7629P –

Dolby B Type Noise Reduction Processor


Vcc
GND
INPUT
MONI. OUT
P
S
A
B
R
P
EK
G
REC OUT

– TA7772P –

2ch Preamp & Rec Amp

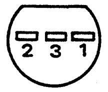

REC AMP CH A
Vcc REC AMP R/P SW
REC AMP CH B
CH A PB AMP
REC Vcc
CH B PB AMP
PB AMP Vcc
R
P

[Terminal Description]

Pin No.	Description	Pin No.	Description
1	GND	9	DC FEEDBACK FILTER
2	PREAMP IN	10	PREAMP OUT
3	REC/PB SELECT SW	11	REC SIGNAL IN
4	GND	12	REC Vcc
5	REC/PB SELECT SW	13	GND
6	PREAMP IN	14	DFF IN (A/B)
7	PB Vcc	15	REC SIGNAL IN
8	GND	16	DC FEEDBACK FILTER

– TA78L009AP –

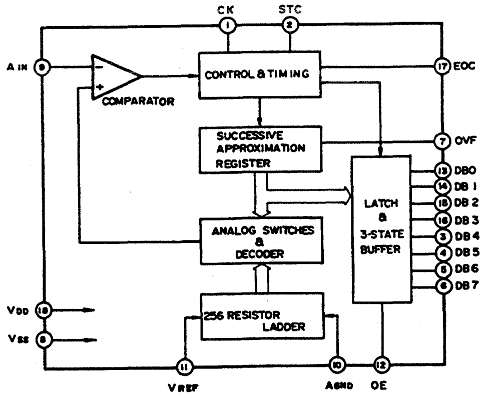
Regulator



Pin1 IN
Pin2 OUT
Pin3 COMMON

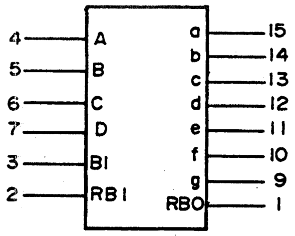
– TC35094P –

8-Bit A/D Converter


CK
STC
A IN
COMPARATOR
CONTROL & TIMING
EOC
SUCCESSIVE APPROXIMATION REGISTER
OVF
LATCH & 3-STATE BUFFER
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
ANALOG SWITCHES & DECODER
256 RESISTOR LADDER
VDD
VSS
VREF
AGND
OE

– TC5022BP –

BCD to 7-Segment Decoder/Driver


4 A
5 B
6 C
7 D
3 BI
2 RBI
a 15
b 14
c 13
d 12
e 11
f 10
g 9
RBO 1

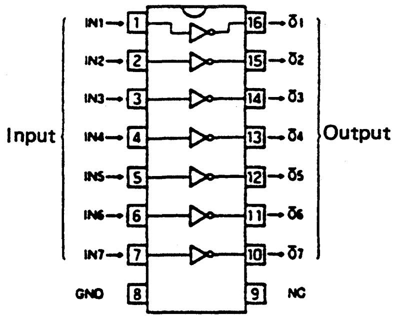
VDD : 16 Vss : 8

TRUTH TABLE

INPUT						OUTPUT							
BI	RBI	A	B	C	D	a	b	c	d	e	f	g	RBO
H	※	※	※	※	※	L	L	L	L	L	L	L	☆
L	H	L	L	L	L	L	L	L	L	L	L	L	H
L	L	L	L	L	L	H	H	H	H	H	H	L	L
L	※	H	L	L	L	L	H	H	L	L	L	L	L
L	※	L	H	L	L	H	H	L	H	H	L	H	L
L	※	H	H	L	L	H	H	H	H	L	L	H	L
L	※	L	L	H	L	L	H	H	L	L	H	H	L
L	※	H	L	H	L	H	L	H	H	L	H	H	L
L	※	L	H	H	L	H	L	H	H	H	H	H	L
L	※	H	H	H	L	H	H	H	L	L	H	L	L
L	※	L	L	L	H	H	H	H	H	H	H	H	L
L	※	H	L	L	H	H	H	H	H	L	H	H	L
L	※	L	H	L	H	H	H	H	H	H	H	L	L
L	※	H	H	L	H	L	H	H	L	L	L	L	L
L	※	L	L	H	H	H	H	L	H	H	L	H	L
L	※	H	L	H	H	H	H	H	H	L	L	H	L
L	※	L	H	H	H	L	H	H	L	L	H	H	L
L	※	H	H	H	H	H	L	H	H	L	H	H	L

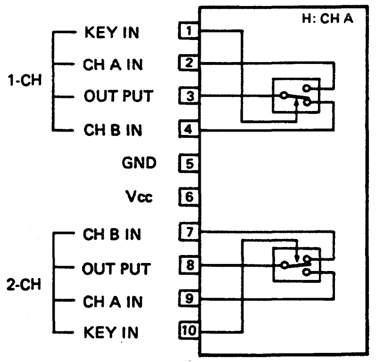
–TD62503 –

Single Driver Common Emitter

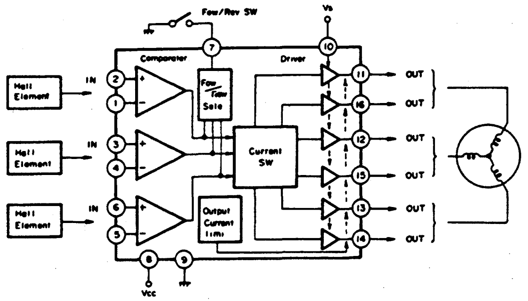

Input
IN1
IN2
IN3
IN4
IN5
IN6
IN7
GND
Output
O1
O2
O3
O4
O5
O6
O7
NC

– TK15021 –

Analog Switch

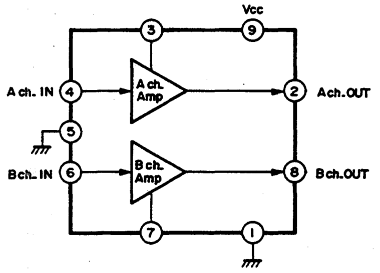

H: CH A
1-CH
KEY IN
CH A IN
OUT PUT
CH B IN
GND
Vcc
2-CH
CH B IN
OUT PUT
CH A IN
KEY IN

– UPC1246G –

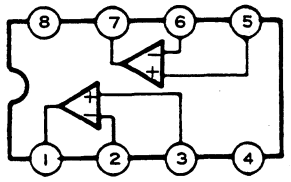

Fow/Rev SW
Vs
Comparator
Driver
Hall Element
IN
Fow Rev Sele
Current SW
Output Current Limiter
OUT
Vcc

– UPC1531HA –

VTR FM Audio PB Head Amp

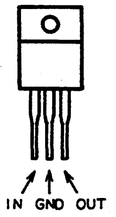

Vcc
A ch. IN
A ch. Amp
Ach. OUT
B ch. IN
B ch. Amp
B ch. OUT

– UPC358G2 –



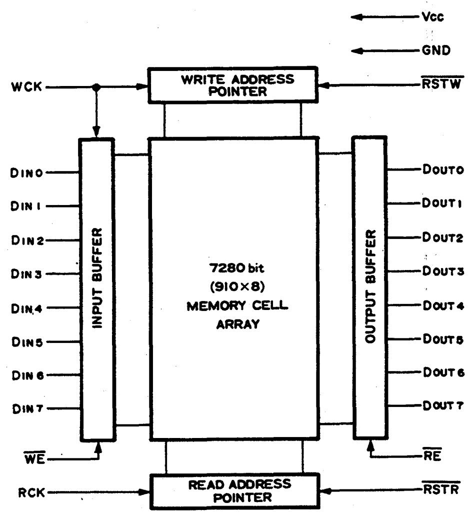
– UPC7815H –

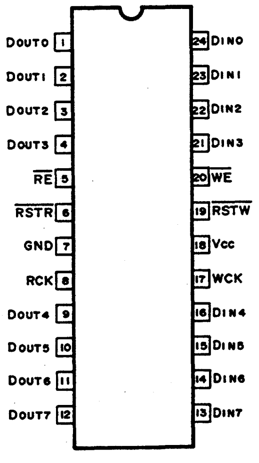
Regulator



– UPD41101G –

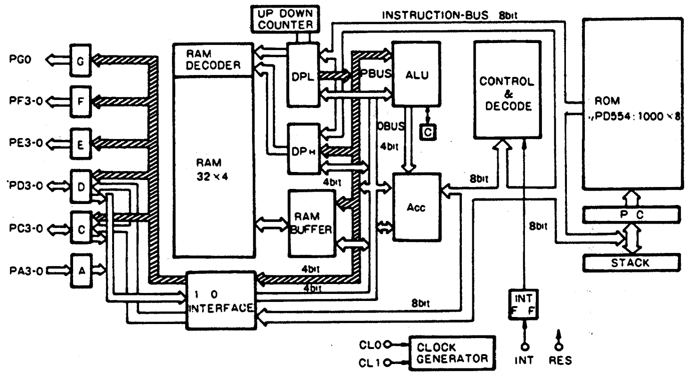
Line Buffer

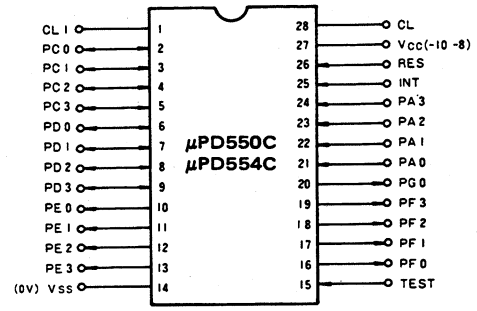

Vcc
GND
WCK
WRITE ADDRESS POINTER
RSTW
DIN0
DIN1
DIN2
DIN3
DIN4
DIN5
DIN6
DIN7
INPUT BUFFER
7280 bit (910×8) MEMORY CELL ARRAY
OUTPUT BUFFER
DOUT0
DOUT1
DOUT2
DOUT3
DOUT4
DOUT5
DOUT6
DOUT7
WE
RE
RCK
READ ADDRESS POINTER
RSTR


DOUT0 1
DOUT1 2
DOUT2 3
DOUT3 4
RE 5
RSTR 6
GND 7
RCK 8
DOUT4 9
DOUT5 10
DOUT6 11
DOUT7 12
24 DIN0
23 DIN1
22 DIN2
21 DIN3
20 WE
19 RSTW
18 Vcc
17 WCK
16 DIN4
15 DIN5
14 DIN6
13 DIN7

– UPD550C-055 –
– UPD554C-058 –

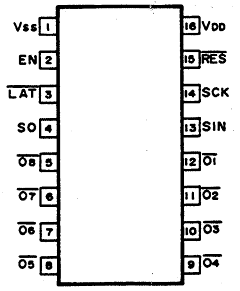
Single-Chip 4-Bit Microcomputer


UP DOWN COUNTER
INSTRUCTION-BUS 8bit
PG0
PF3-0
PE3-0
PD3-0
PC3-0
PA3-0
G
F
E
D
C
A
RAM DECODER
RAM 32×4
DPL
DPH
RAM BUFFER
PBUS
ALU
OBUS
4bit
C
Acc
8bit
CONTROL & DECODE
ROM μPD554: 1000×8
P C
STACK
I O INTERFACE
4bit
8bit
INT F F
CL0
CL1
CLOCK GENERATOR
INT
RES


μPD550C
μPD554C
CL 1 1
PC 0 2
PC 1 3
PC 2 4
PC 3 5
PD 0 6
PD 1 7
PD 2 8
PD 3 9
PE 0 10
PE 1 11
PE 2 12
PE 3 13
(0V) Vss 14
15 TEST
16 PF 0
17 PF 1
18 PF 2
19 PF 3
20 PG 0
21 PA 0
22 PA 1
23 PA 2
24 PA 3
25 INT
26 RES
27 Vcc(-10 -8)
28 CL

– UPD6345C –

8-bit Serial In Parallel Out Driver


Vss 1
EN 2
LAT 3
SO 4
O8 5
O7 6
O6 7
O5 8
9 O4
10 O3
11 O2
12 O1
13 SIN
14 SCK
15 RES
16 VDD

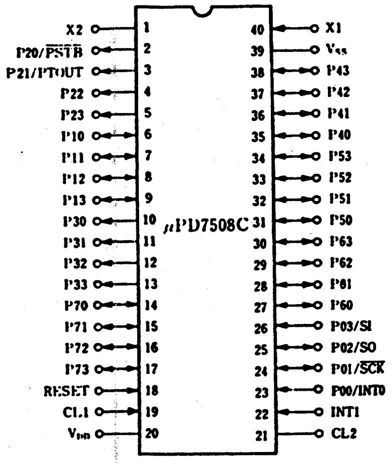
SCK	EN	$\overline{RES}$	$\overline{LAT}$	SIN	OUT $\overline{O_1}$	OUT $\overline{O_n}$	SO
↑	H	H	H	L	High Inpedance	$\overline{O_{n-1}}$	S_7
↑	H	H	H	H	L	$\overline{O_{n-1}}$	S_7
↑	H	H	L	※	NO CHANGE	NO CHANGE	S_7
↑	L	H	※	※	High Impedance	High Impedance	S_7
↓	※	※	※	※	NO CHANGE	NO CHANGE	S_8
※	※	L	H	※	High Impedance	High Impedance	L
※	H	⊔	L	※	NO CHANGE	NO CHANGE	L

※ "H" or "L"

– UPD7508C-A28 –

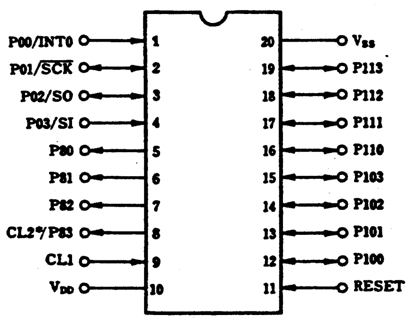
1 Chip. 4 Bit microcomputer

(TOP VIEW)

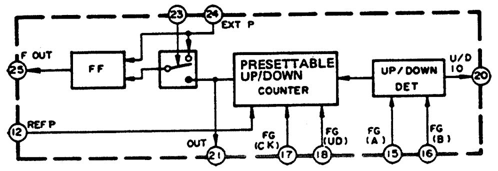

μPD7508C
X2 1
P20/PSTB 2
P21/PTOUT 3
P22 4
P23 5
P10 6
P11 7
P12 8
P13 9
P30 10
P31 11
P32 12
P33 13
P70 14
P71 15
P72 16
P73 17
RESET 18
CL1 19
VDD 20
21 CL2
22 INT1
23 P00/INT0
24 P01/SCK
25 P02/SO
26 P03/SI
27 P60
28 P61
29 P62
30 P63
31 P50
32 P51
33 P52
34 P53
35 P40
36 P41
37 P42
38 P43
39 Vss
40 X1

– UPD7564G –

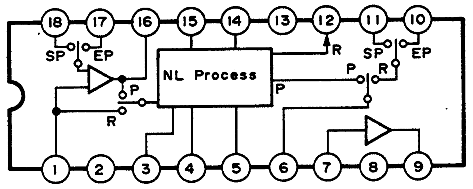
1chip-4bit Microcomputer


P00/INT0 1
P01/SCK 2
P02/SO 3
P03/SI 4
P80 5
P81 6
P82 7
CL2*/P83 8
CL1 9
VDD 10
11 RESET
12 P100
13 P101
14 P102
15 P103
16 P110
17 P111
18 P112
19 P113
20 Vss

– VC2032 –


23
24
EXT P
F OUT
25
FF
PRESETTABLE UP/DOWN COUNTER
UP/DOWN DET
U/D IO
20
12
REF P
OUT
21
FG (CK)
17
FG (UD)
18
FG (A)
15
FG (B)
16

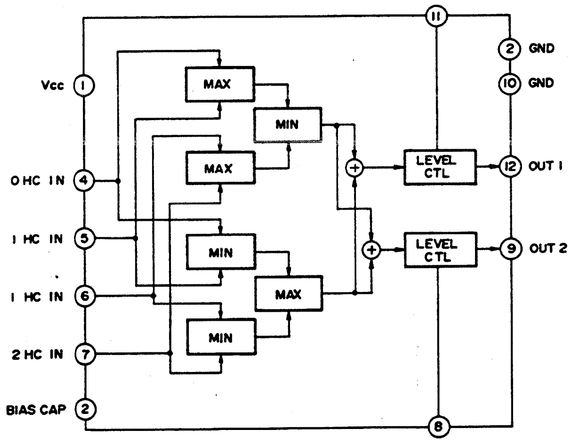
– VC2031DP –


18
17
16
15
14
13
12
11
10
SP
EP
NL Process
R
P
1
2
3
4
5
6
7
8
9

Pin No.	Description	Pin No.	Description
1	Input	10	EP Feedback In
2	$\overline{Rec}$/P.B.	11	SP Feedback In
3	Limiter Bias	12	F Amp Out
4	Limiter Bias	13	GND
5	SP/$\overline{EP}$	14	D Amp In
6	SW3 Out	15	C Amp Out
7	Gain Amp In & Output Select	16	A Amp Out
8	Vcc	17	EP Feedback In
9	Output	18	SP Feedback In

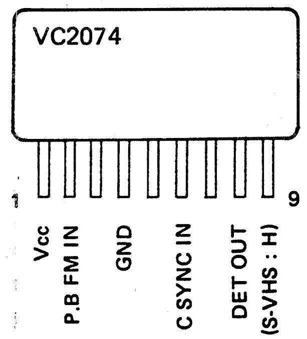
– VC2061 –

Cross Talk Cancel Circuit


Vcc 1
OHC IN 4
1 HC IN 5
1 HC IN 6
2 HC IN 7
BIAS CAP 2
11
2 GND
10 GND
MAX
MIN
MAX
MIN
MAX
MIN
LEVEL CTL
LEVEL CTL
12 OUT 1
9 OUT 2
8

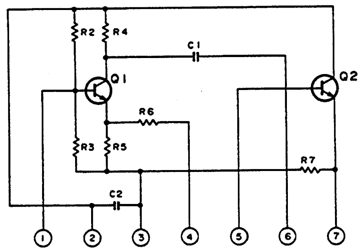
– VC2074 –

PB S-VHS mode Detector

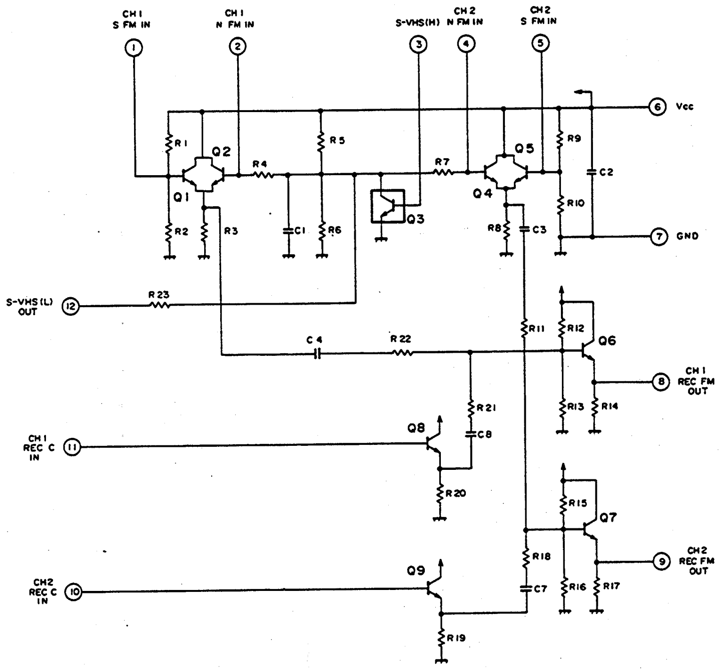

VC2074
1
9
Vcc
P.B FM IN
GND
C SYNC IN
DET OUT
(S-VHS : H)

– VC2096 –

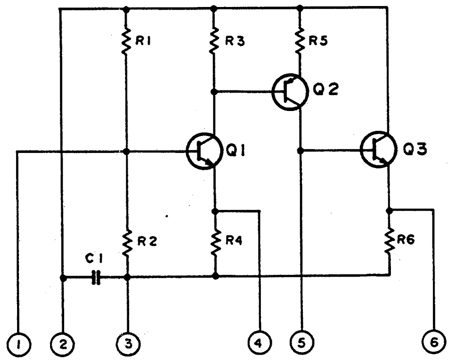
Delay Equalizer


R2
R4
C1
Q1
Q2
R6
R3
R5
R7
C2
1
2
3
4
5
6
7

– VC2097 –

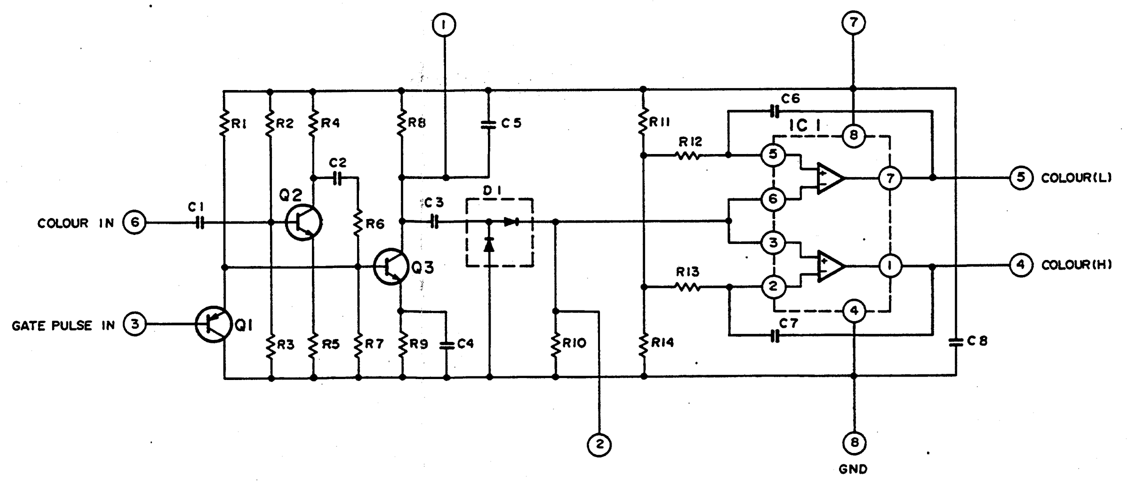

CH1 S FM IN
CH1 N FM IN
S-VHS(H)
CH2 N FM IN
CH2 S FM IN
1
2
3
4
5
6 Vcc
7 GND
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
C1
C2
C3
Q1
Q2
Q3
Q4
Q5
S-VHS(L) OUT 12
R23
C4
R22
R11
R12
Q6
R13
R14
8 CH1 REC FM OUT
R21
C8
Q8
CH1 REC C IN 11
R20
R15
Q7
R18
R16
R17
C7
9 CH2 REC FM OUT
Q9
CH2 REC C IN 10
R19

– VC2501 –

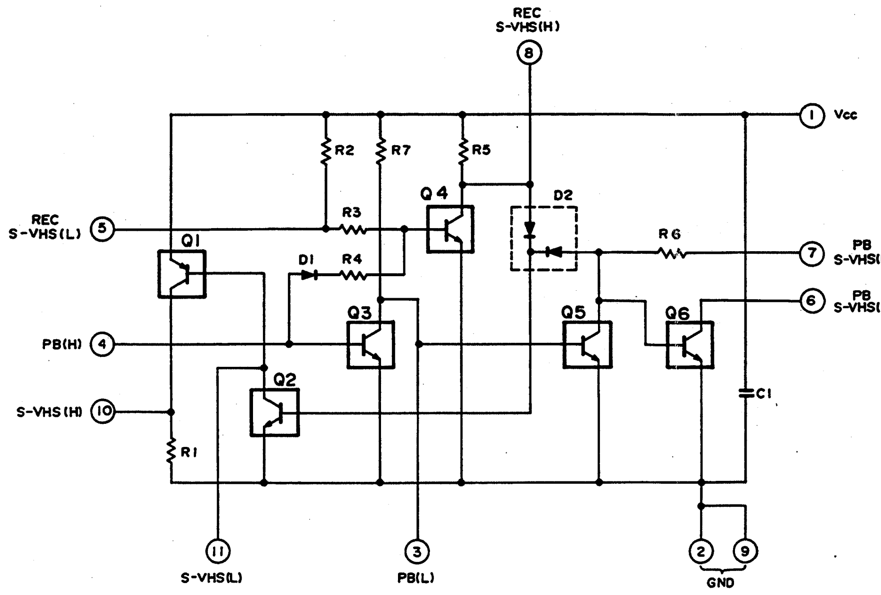

R1
R3
R5
Q2
Q1
Q3
C1
R2
R4
R6
1
2
3
4
5
6

– VC2502 –

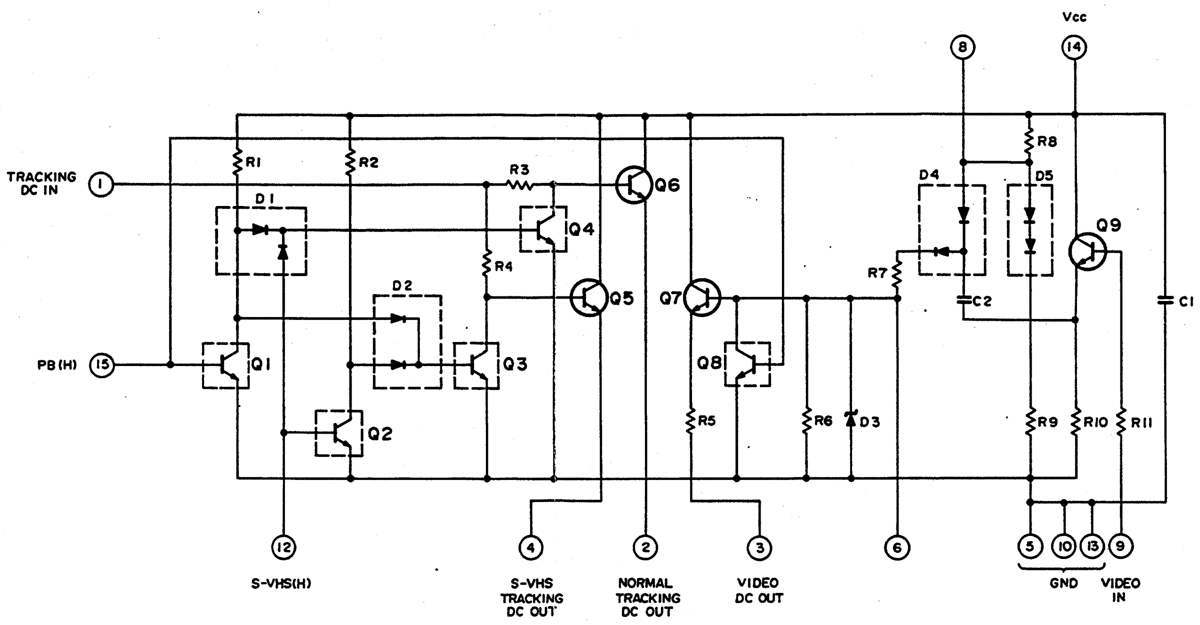
Colour Detector


1
7
R1
R2
R4
R8
C5
R11
C6
IC1
R12
C2
Q2
R6
C3
D1
COLOUR IN 6
C1
Q3
GATE PULSE IN 3
Q1
R3
R5
R7
R9
C4
R10
R14
R13
C7
C8
5 COLOUR(L)
4 COLOUR(H)
2
8
GND

– VC2503 –

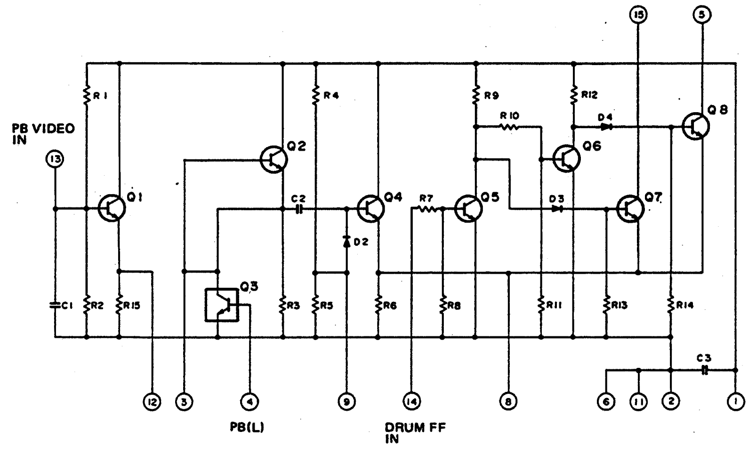

REC S-VHS(H)
⑧
① Vcc
R2
R7
R5
Q4
D2
REC S-VHS(L) ⑤
R3
Q1
D1
R4
R6
⑦ PB S-VHS(H)
⑥ PB S-VHS(L)
PB(H) ④
Q3
Q5
Q6
S-VHS(H) ⑩
Q2
C1
R1
⑪ S-VHS(L)
③ PB(L)
② ⑨ GND

– VC2504 –

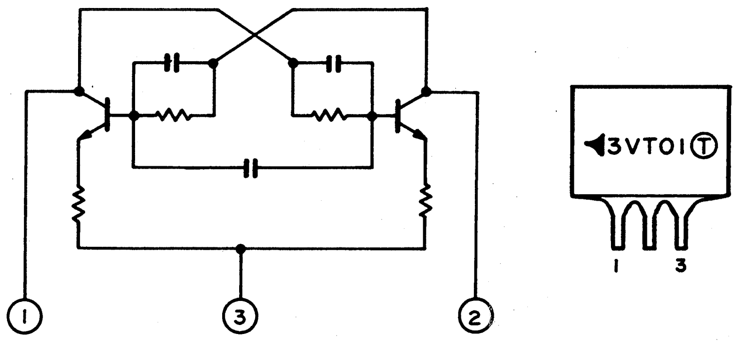

Vcc
⑧
⑭
TRACKING DC IN ①
R1
R2
R3
Q6
R8
D1
Q4
D4
D5
Q9
R4
R7
Q5
Q7
C2
C1
D2
PB(H) ⑮
Q1
Q3
Q8
Q2
R5
R6
D3
R9
R10
R11
⑫ S-VHS(H)
④ S-VHS TRACKING DC OUT
② NORMAL TRACKING DC OUT
③ VIDEO DC OUT
⑥
⑤ ⑩ ⑬ GND
⑨ VIDEO IN

– VC2506-3 –

DG Compensator

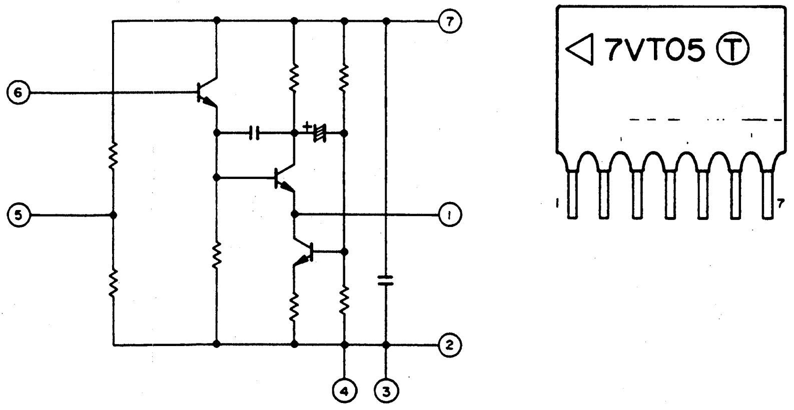

⑮
⑤
PB VIDEO IN ⑬
R1
R4
R9
R12
R10
D4
Q8
Q2
Q6
Q1
C2
Q4
R7
Q5
D3
Q7
D2
Q3
C1
R2
R15
R3
R5
R6
R8
R11
R13
R14
C3
⑫ ③ ④ PB(L)
⑨
⑭ DRUM FF IN
⑧
⑥ ⑪ ② ①

–3VT01 –


① ③ ②
3VT01 Ⓣ
1 3

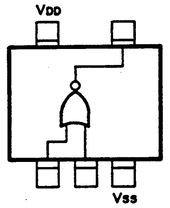
– 7VT05 –

Driver


⑦
⑥
⑤
①
②
④ ③
7VT05 Ⓣ
1
7

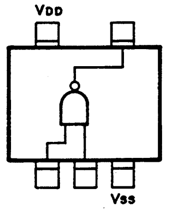
– TC4S01F –

NOR



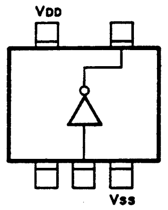
– TC4S11F –

NAND



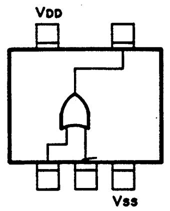
– TC4S69F –

INV



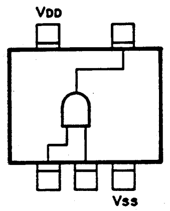
– TC4S71F –

OR



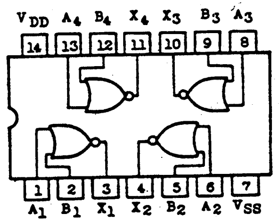
– TC4S81F –

AND



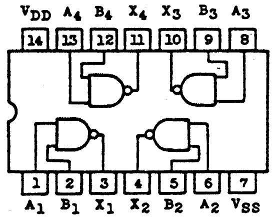
— 4001 —

Quad 2 Input NOR Gate


V_{DD} A_4 B_4 X_4 X_3 B_3 A_3
14 13 12 11 10 9 8
1 2 3 4 5 6 7
A_1 B_1 X_1 X_2 B_2 A_2 V_{SS}

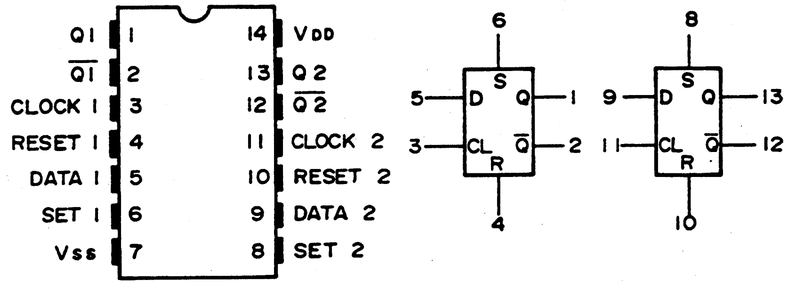
— 4011 —

Quad 2 Input NAND Gate


V_{DD} A_4 B_4 X_4 X_3 B_3 A_3
14 13 12 11 10 9 8
1 2 3 4 5 6 7
A_1 B_1 X_1 X_2 B_2 A_2 V_{SS}

— 4013 —

Dual D-Type Flip Flop


Q1 1
$\overline{Q1}$ 2
CLOCK 1 3
RESET 1 4
DATA 1 5
SET 1 6
Vss 7
14 VDD
13 Q 2
12 $\overline{Q2}$
11 CLOCK 2
10 RESET 2
9 DATA 2
8 SET 2
6
5 D
S
Q 1
3 CL
R
$\overline{Q}$ 2
4
8
9 D
S
Q 13
11 CL
R
$\overline{Q}$ 12
10

(TOP VIEW)

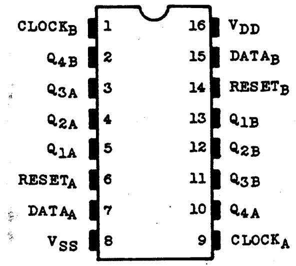
TRUTH TABLE

INPUTS				OUTPUTS	
RESET	SET	DATA	CLOCK △	Qn+1	$\bar{Q}$n+1
L	H	*	*	H	L
H	L	*	*	L	H
H	H	*	*	L	H
L	L	L		L	H
L	L	H		H	L
L	L	*		Qn •	$\bar{Q}$n •

* : Don't Care
△ : Level Change
• : No Change

— 4015 —

Dual 4-Stage Static Shift Resister


$CLOCK_B$ 1
Q_{4B} 2
Q_{3A} 3
Q_{2A} 4
Q_{1A} 5
$RESET_A$ 6
$DATA_A$ 7
V_{SS} 8
16 V_{DD}
15 $DATA_B$
14 $RESET_B$
13 Q_{1B}
12 Q_{2B}
11 Q_{3B}
10 Q_{4A}
9 $CLOCK_A$

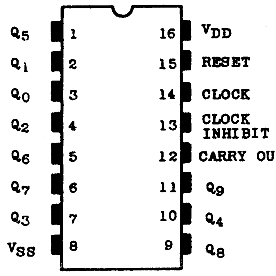
(TOP VIEW)

INPUTS			OUTPUTS			
CLOCK△	DATA	RESET	Q_1	Q_2	Q_3	Q_4
↑	L	L	L	Q_1	Q_2	Q_3
↑	H	L	H	Q_1	Q_2	Q_3
↓	*	L	No Change			
*	*	H	L	L	L	L

△ : Level Change
* : Don't Care

— 4017 —

Decade Counter/Divider


Q_5 1
Q_1 2
Q_0 3
Q_2 4
Q_6 5
Q_7 6
Q_3 7
V_{SS} 8
16 V_{DD}
15 RESET
14 CLOCK
13 CLOCK INHIBIT
12 CARRY OUT
11 Q_9
10 Q_4
9 Q_8

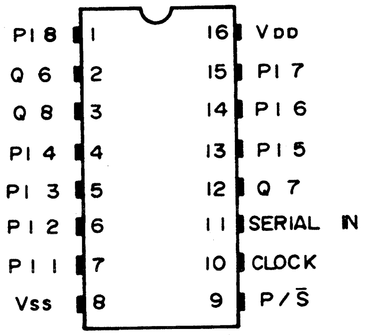
(TOP VIEW)

INPUTS			SELECTED OUTPUT
CLOCK △	CLOCK INHIBIT△	RESET	
※	※	H	Q_0
※	H	L	Q_n (NC)
L	※	L	Q_n (NC)
↑	L	L	Q_n + 1
↓	L	L	Q_n (NC)
H	↑	L	Q_n (NC)
H	↓	L	Q_n + 1

△ ; Level Change
※ ; Don't Care
NC ; No Change
CARRY OUT { "H" ··· $Q_0 \sim Q_4$ = "H"; "L" ··· $Q_5 \sim Q_9$ = "H" }

— 4021 —

8-Stage Static Shift Register
(Asynchronous Parallel Input or Synchronous Serial Input/Serial Output)


PI 8 1
Q 6 2
Q 8 3
PI 4 4
PI 3 5
PI 2 6
PI 1 7
Vss 8
16 VDD
15 PI 7
14 PI 6
13 PI 5
12 Q 7
11 SERIAL IN
10 CLOCK
9 P/$\bar{S}$

(TOP VIEW)

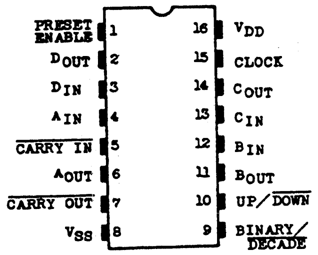
TRUTH TABLE

INPUTS					OUTPUTS △	
CLOCK △△	P/$\bar{S}$	PI_1	PI_n	SI	Q_1	Q_n
↑	L	*	*	L	L	Q_{n-1}
↑	L	*	*	H	H	Q_{n-1}
↓	L	*	*	*	No Change	
*	H	L	L	*	L	L
*	H	L	H	*	L	H
*	H	H	L	*	H	L
*	H	H	H	*	H	H

n ; 2 ~ 8
△ ; $Q_1 \sim Q_5$ Internal
△△ ; Level
* ; Don't Care

— 4029 —

Presettable Up/Down Counter


PRESET ENABLE 1
D_{OUT} 2
D_{IN} 3
A_{IN} 4
$\overline{CARRY\ IN}$ 5
A_{OUT} 6
$\overline{CARRY\ OUT}$ 7
V_{SS} 8
16 V_{DD}
15 CLOCK
14 C_{OUT}
13 C_{IN}
12 B_{IN}
11 B_{OUT}
10 UP/$\overline{DOWN}$
9 BINARY/$\overline{DECADE}$

(Top View)

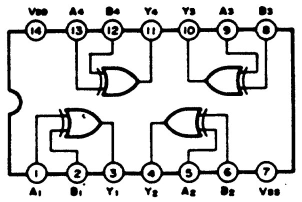
[Truth Table]

$\overline{CARRY\ IN}$	PRESET ENABLE	UP/$\overline{DOWN}$	BINARY/$\overline{DECADE}$	FUNCTION
L	L	H	*	UP COUNT
L	L	L	*	DOWN COUNT
*	H	*	*	PRESET
H	L	*	*	NO COUNT
L	L	*	H	BINARY COUNT
L	L	*	L	DECADE COUNT

* Don't Care

— 4030 —

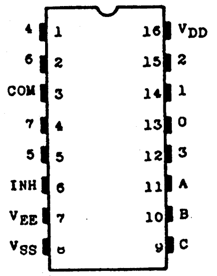
Quad Exclusive-OR Gate


Vss A4 B4 Y4 Y3 A3 B3
14 13 12 11 10 9 8
1 2 3 4 5 6 7
A1 B1 Y1 Y2 A2 B2 Vss

INPUT		OUTPUT
A	B	Y
L	L	L
L	H	H
H	L	H
H	H	L

— 4051 —

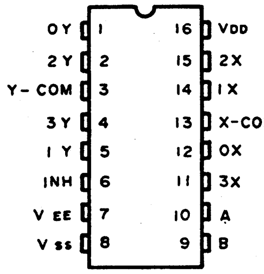
Single S-Channel Multiplexer/Demultiplexer


4 1
6 2
COM 3
7 4
5 5
INH 6
V_{EE} 7
V_{SS} 8
16 V_{DD}
15 2
14 1
13 0
12 3
11 A
10 B
9 C

(Top View)

— 4052 —

Differential Multiplexer/Demultiplexer


0Y 1
2Y 2
Y-COM 3
3Y 4
1Y 5
INH 6
V EE 7
V ss 8
16 VDD
15 2X
14 1X
13 X-COM
12 0X
11 3X
10 A
9 B

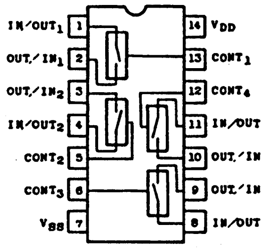
[Truth Table]

CONTROL INPUTS				'ON' CHANNEL		
INHIBIT	C△	B	A	4051	4052	4053
L	L	L	L	0	0X.0Y	0X.0Y.0Z
L	L	L	H	1	1X,1Y	1X,0Y.0Z
L	L	H	L	2	2X.2Y	0X.1Y.0Z
L	L	H	H	3	3X,3Y	1X,1Y.0Z
L	H	L	L	4	—	0X,0Y,1Z
L	H	L	H	5	—	1X,0Y.1Z
L	H	H	L	6	—	0X,1Y.1Z
L	H	H	H	7	—	1X,1Y,1Z
H	*	*	*	NONE	NONE	NOTE

* Don't Care.

— 4066 —

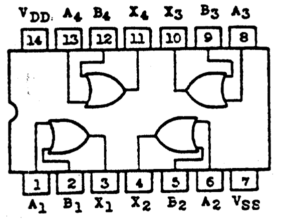
Quad Bilateral Switch


IN/OUT1 1
OUT/IN1 2
OUT/IN2 3
IN/OUT2 4
CONT2 5
CONT3 6
Vss 7
14 VDD
13 CONT1
12 CONT4
11 IN/OUT4
10 OUT/IN4
9 OUT/IN3
8 IN/OUT3

H : ON

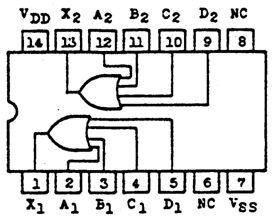
— 4071 —

Quad 2 Input OR Gate


V_{DD} A_4 B_4 X_4 X_3 B_3 A_3
14 13 12 11 10 9 8
1 2 3 4 5 6 7
A_1 B_1 X_1 X_2 B_2 A_2 V_{SS}

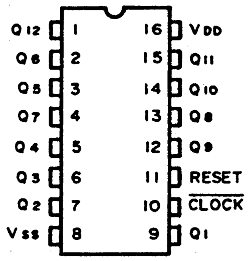
— 4072 —

Quad 4 Input OR Gate


V_{DD} X_2 A_2 B_2 C_2 D_2 NC
14 13 12 11 10 9 8
1 2 3 4 5 6 7
X_1 A_1 B_1 C_1 D_1 NC V_{SS}

— TC4040BP —

12 Stage Binary Counter/Dividers

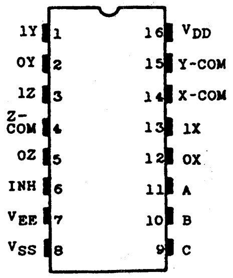

Q12 1
Q6 2
Q5 3
Q7 4
Q4 5
Q3 6
Q2 7
Vss 8
16 VDD
15 Q11
14 Q10
13 Q8
12 Q9
11 RESET
10 $\overline{CLOCK}$
9 Q1

CLOCK △	RESET	OUTPUT STAGE
*	H	ALL Outputs = L
↑	L	NO Change
↓	L	Advance to Next Stage

△ : Level Change, * : Don't Care

— 4053 —

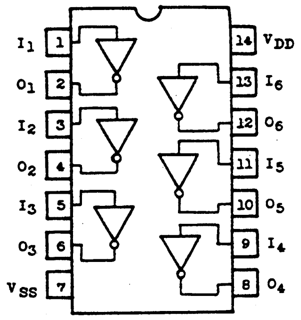
Triple 2-Channel Multiplexer/Demultiplexer


1Y 1
0Y 2
1Z 3
Z-COM 4
0Z 5
INH 6
V_{EE} 7
V_{SS} 8
16 V_{DD}
15 Y-COM
14 X-COM
13 1X
12 0X
11 A
10 B
9 C

(Top View)

— 4069 —

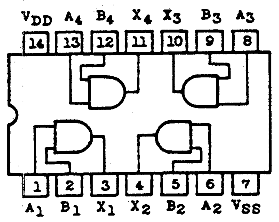
Hex Inverter


I_1 1
O_1 2
I_2 3
O_2 4
I_3 5
O_3 6
V_{SS} 7
14 V_{DD}
13 I_6
12 O_6
11 I_5
10 O_5
9 I_4
8 O_4

(TOP VIEW)

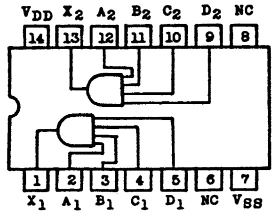
— 4081 —

Quad 2 Input AND Gate


V_{DD} A_4 B_4 X_4 X_3 B_3 A_3
14 13 12 11 10 9 8
1 2 3 4 5 6 7
A_1 B_1 X_1 X_2 B_2 A_2 V_{SS}

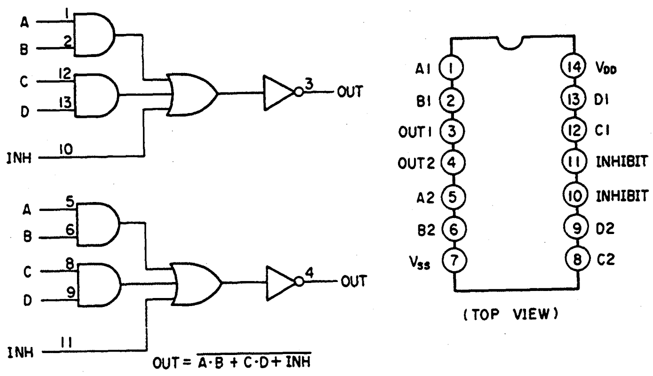
— 4082 —

Qual 4 Input AND Gate


V_{DD} X_2 A_2 B_2 C_2 D_2 NC
14 13 12 11 10 9 8
1 2 3 4 5 6 7
X_1 A_1 B_1 C_1 D_1 NC V_{SS}

— 4085 —

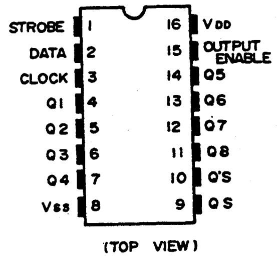
Dual 2-Wide 2-Input and-or-invert Gate


A 1
B 2
C 12
D 13
3 OUT
INH 10
A 5
B 6
C 8
D 9
4 OUT
INH 11
OUT = $\overline{A\cdot B + C\cdot D + INH}$
A1 1
B1 2
OUT1 3
OUT2 4
A2 5
B2 6
Vss 7
14 VDD
13 D1
12 C1
11 INHIBIT 2
10 INHIBIT 1
9 D2
8 C2

(TOP VIEW)

— 4094 —

8-Stage Shift-and-Store Busregister


STROBE 1
DATA 2
CLOCK 3
Q1 4
Q2 5
Q3 6
Q4 7
Vss 8
16 VDD
15 OUTPUT ENABLE
14 Q5
13 Q6
12 Q7
11 Q8
10 Q'S
9 QS

(TOP VIEW)

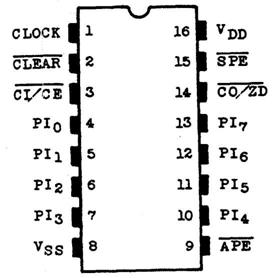
TRUTH TABLE

CK	OE	ST	D	PO		SO	
				Q_1	Q_n	Q_8	Q'_8
↑	H	H	L	L	Q_{n-1}	Q_7	NC
↑	H	H	H	H	Q_{n-1}	Q_7	NC
↑	H	L	*	NC	NC	Q_7	NC
↑	L	*	*	HZ	HZ	Q_7	NC
↓	H	*	*	NC	NC	NC	Q_8
↓	L	*	*	HZ	HZ	NC	Q_8

CK = Clock
OE = Output Enable
ST = Strobe
D = Data
PO = Parallel Outputs
SO = Serial Output
* = Don't care
NC = No Change
HZ = High Impedance

— 40103 —

8-Stage Presettable Synchronous Down Counter


CLOCK 1
CLEAR 2
CI/CE 3
PI0 4
PI1 5
PI2 6
PI3 7
VSS 8
16 VDD
15 SPE
14 CO/ZD
13 PI7
12 PI6
11 PI5
10 PI4
9 APE

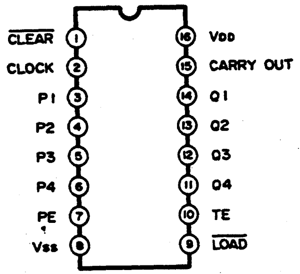
(TOP VIEW)

INPUTS					FUNCTION
$\overline{CLEAR}$	$\overline{APE}$	$\overline{SPE}$	$\overline{CI/CE}$	CLOCK	
H	H	H	H	•	NO COUNT
H	H	H	L	↑	DOWN COUNT
H	H	L	•	↑	PRESET DATA
H	L	•	•	•	ASYNCHRONOUS DATA
L	•	•	•	•	CLEAR: SET TO "255"

•: Dowt care

— 40161 —

Synchronous Programmable 4-bit Counter

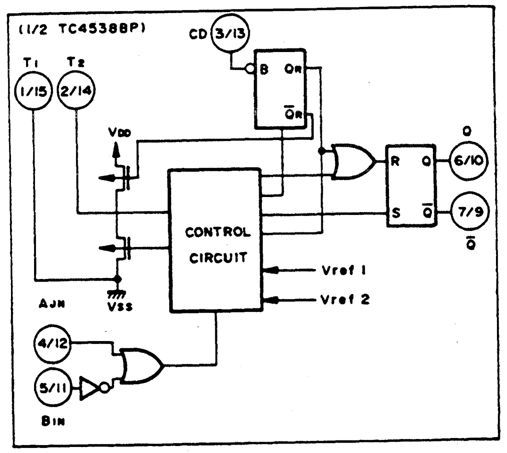

CLEAR 1
CLOCK 2
P1 3
P2 4
P3 5
P4 6
PE 7
Vss 8
16 VDD
15 CARRY OUT
14 Q1
13 Q2
12 Q3
11 Q4
10 TE
9 LOAD

* : DON'T CARE
△ : LEVEL CHANGE
• : NO CHANGE
D : DATA "H" or "L"
☼ : DON'T CARE

INPUT									OUTPUT			
CLOCK	$\overline{CLEAR}$	$\overline{LOAD}$	PE	TE	P1	P2	P3	P4	Q1	Q2	Q3	Q4
☼	L	*	*	*	*	*	*	*	L	L	L	L
△ ↑	H	L	*	*	D1	D2	D3	D4	D1	D2	D3	D4
△ ↑	H	H	L	L	*	*	*	*	•	•	•	•
△ ↑	H	H	L	H	*	*	*	*	•	•	•	•
△ ↑	H	H	H	L	*	*	*	*	•	•	•	•
△ ↑	H	H	H	H	*	*	*	*	COUNT			
△ ↓	H	*	*	*	*	*	*	*	•	•	•	•

— 4538 —

Dual Precision Retriggerable/ Resettable Monostable Multivibrator

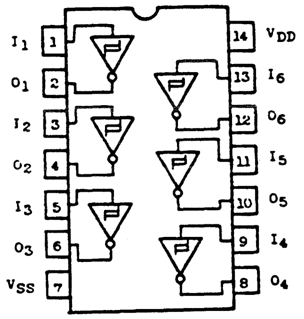

(1/2 TC4538BP)
CD (3/13)
T1
T2
(1/15)
(2/14)
VDD
B
QR
Q̄R
R
S
Q
Q̄
Q
(6/10)
(7/9)
Q̄
CONTROL CIRCUIT
Vref 1
Vref 2
AIN
VSS
(4/12)
(5/11)
BIN

INPUT			OUTPUT		NOTE
AIN	BIN	CD	Q	Q̄	
↑	H	H	⊓	⊔	OUTPUT ENABLE
↑	L	H	L	H	INHIBIT
H	↓	H	L	H	INHIBIT
L	↓	H	⊓	⊔	OUTPUT ENABLE
※	※	L	L	H	INHIBIT

※ Don't Care

— 4584 —

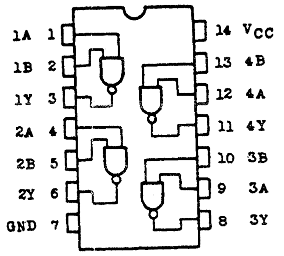
Hex Schimitt Trigger


I1 1
O1 2
I2 3
O2 4
I3 5
O3 6
VSS 7
14 VDD
13 I6
12 O6
11 I5
10 O5
9 I4
8 O4

(TOP VIEW)

— 74HC00 —

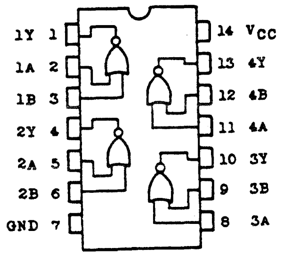
Quad 2-Input NAND Gate


1A 1
1B 2
1Y 3
2A 4
2B 5
2Y 6
GND 7
14 Vcc
13 4B
12 4A
11 4Y
10 3B
9 3A
8 3Y

(TOP VIEW)

— 74HC02 —

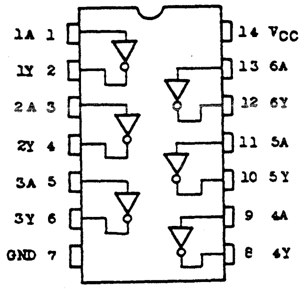
Quad 2-Input NOR Gate


1Y 1
1A 2
1B 3
2Y 4
2A 5
2B 6
GND 7
14 Vcc
13 4Y
12 4B
11 4A
10 3Y
9 3B
8 3A

(TOP VIEW)

— 74HC04 —

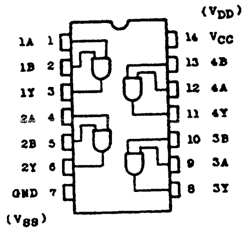
Hex Inverter


1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 Vcc
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

(Top View)

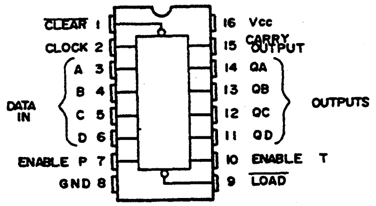
— 74HC08 —

Quad 2-Input AND Gate


(VDD)
1A 1
1B 2
1Y 3
2A 4
2B 5
2Y 6
GND 7
(VSS)
14 Vcc
13 4B
12 4A
11 4Y
10 3B
9 3A
8 3Y

— 74HC163 —

Synchronous Presettable 4-Bit Counter Binary, Synchronous Clear


CLEAR 1
CLOCK 2
A 3
B 4
C 5
D 6
DATA IN
ENABLE P 7
GND 8
16 Vcc
15 CARRY OUTPUT
14 QA
13 QB
12 QC
11 QD
OUTPUTS
10 ENABLE T
9 LOAD

(TOP VIEW)

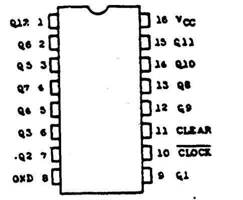
TRUTH TABLE

INPUTS					OUTPUTS				FUNCTION
$\overline{CLR}$	$\overline{LD}$	PE	TE	CK	Q_A	Q_B	Q_C	Q_D	
L	*	*	*	↑	L	L	L	L	REST TO "0"
H	L	*	*	↑	A	B	C	D	PRESET DATA
H	H	*	L	↑	NO CHANGE				NO COUNT
H	H	L	*	↑	NO CHANGE				NO COUNT
H	H	H	H	↑	COUNT UP				COUNT
*	*	*	*	↓	NO CHANGE				NO COUNT

Note * : Don't Care
A, B, C, D : Logic Level of Data Inputs
Carry : CARRY = $TE\cdot Q_A\cdot Q_B\cdot Q_C\cdot Q_D$

— 74HC4040 —

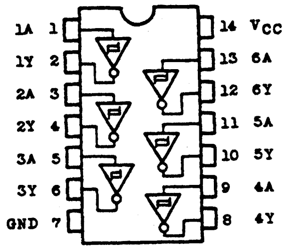
12-Stage Binary Counter


Q12 1
Q6 2
Q5 3
Q7 4
Q4 5
Q3 6
Q2 7
GND 8
16 Vcc
15 Q11
14 Q10
13 Q8
12 Q9
11 CLEAR
10 CLOCK
9 Q1

$\overline{CLOCK}$	CLEAR	OUTPUT STATE
X	H	ALL OUTPUT = "L"
↑	L	NO CHANGE
↓	L	ADVANCE TO NEXT STAGE

— 74HC14 —

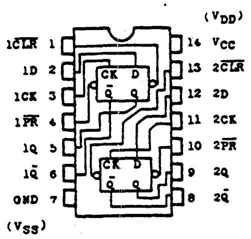
Hex Schmitt Inverter


1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 Vcc
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

(Top View)

— 74HC74 —

Dual D Flip-Flop with Preset and Clear

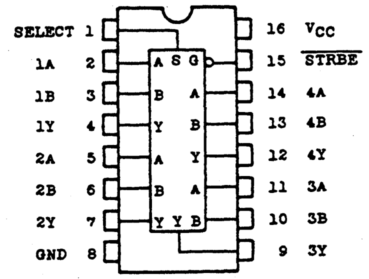

(VDD)
1CLR 1
1D 2
1CK 3
1PR 4
1Q 5
1Q̄ 6
GND 7
(VSS)
14 Vcc
13 2CLR
12 2D
11 2CK
10 2PR
9 2Q
8 2Q̄
CK
D
Q
Q̄

INPUTS				OUTPUTS		FUNCTION
$\overline{CLR}$	$\overline{PR}$	D	CK	Q	Q̄	
L	H	•	•	L	H	CLEAR
H	L	•	•	H	L	PRESET
L	L	•	•	H	H	—
H	H	L	↑	L	H	—
H	H	H	↑	H	L	—
H	H	•	↓	Qn	Q̄n	NO CHANGE

• Don't care

— 74HC157 —

Quad 2-Channel Multiplexer


SELECT 1
1A 2
1B 3
1Y 4
2A 5
2B 6
2Y 7
GND 8
16 Vcc
15 STRBE
14 4A
13 4B
12 4Y
11 3A
10 3B
9 3Y
A S G
B A
Y B
A Y
B A
Y Y B

(Top View)

[Truth Table]

INPUTS				OUTPUT
$\overline{STROBE}$	SELECT	A	B	Y
H	*	*	*	L
L	L	L	*	L
L	L	H	*	H
L	H	*	L	L
L	H	*	H	H

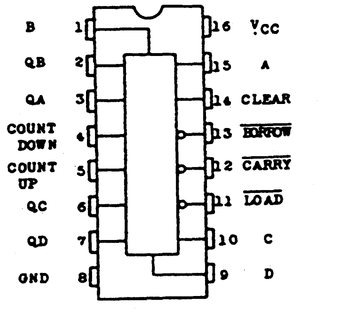
* Don't Care

— 74HC193 —

Synchronous Up/Down Binary Counter

COUNT UP	COUNT DOWN	$\overline{LOAD}$	CLEAR	FUNCTION
↑	H	H	L	COUNT UP
↓	H	H	L	NO COUNT
H	↑	H	L	COUNT DOWN
H	↓	H	L	NO COUNT
X	X	L	L	PRESET
X	X	X	H	RESET

X : DON'T CARE


B 1
QB 2
QA 3
COUNT DOWN 4
COUNT UP 5
QC 6
QD 7
GND 8
16 Vcc
15 A
14 CLEAR
13 BORROW
12 CARRY
11 LOAD
10 C
9 D

(TOP VIEW)

SECTION 5
EXPLODED VIEWS AND PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety.
Replace only with specified part numbers.

Page

5.1 STANDARD PART NUMBER CODING
- 5.1.1 Screw coding .... 5 - 2
- 5.1.2 Fuse coding .... 5 - 2

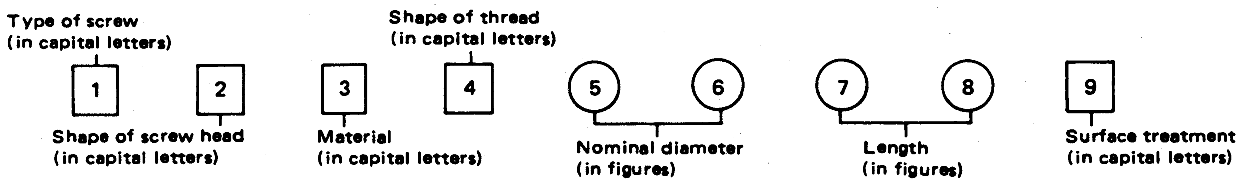
5.2 EXPLODED VIEWS AND PARTS LIST
- 5.2.1 Packing assembly .... 5 - 3
- 5.2.2 Cabinet assembly .... 5 - 4
- 5.2.3 Chassis assembly .... 5 - 6
- 5.2.4 Frame assembly .... 5 - 8
- 5.2.5 Mounting bracket assembly 5-10
- 5.2.6 Rear bracket assembly 5-13
- 5.2.7 Main-deck (1) assembly 5-14
- 5.2.8 Main-deck (2) assembly 5-16
- 5.2.9 Sub-deck assembly 5-18
- 5.2.10 Drum assembly 5-20
- 5.2.11 Cassette housing assembly 5-20
- 5.2.12 Front panel assembly 5-22

5-1

5.1 STANDARD PART NUMBER CODING

5.1.1 Screw coding

Standard screw part numbers are as follows.

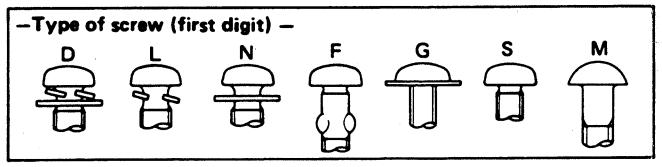

Type of screw
(in capital letters)
Shape of thread
(in capital letters)
1
2
3
4
5
6
7
8
9
Shape of screw head
(in capital letters)
Material
(in capital letters)
Nominal diameter
(in figures)
Length
(in figures)
Surface treatment
(in capital letters)

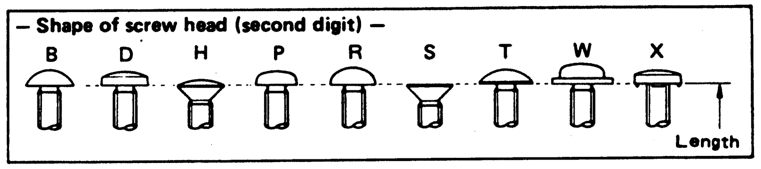
Type of screw (first digit)

S	Normal screws
D	Assembled machine screws (with plain and spring washers)
L	" (with spring washer)
N	" (with plain washer)
F	Feather screws
G	Washer head tapping screws
M	Wood screws

Shape of screw head (second digit)

B	Brazier head
D	Binding head
H	Oval countersunk head
P	Pan head
R	Round head
S	Flat head
T	Truss head
W	Washer head (machine screws)
X	Toothed head


—Type of screw (first digit) —

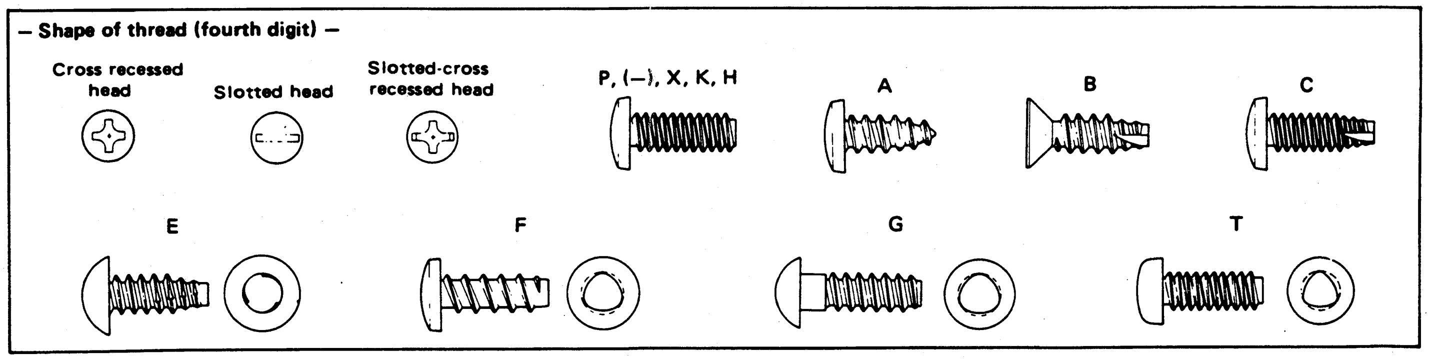

— Shape of screw head (second digit) —
B
D
H
P
R
S
T
W
X
Length

Material (third digit)

S	Steel
E	Stainless steel
C	Cast iron
U	Copper
B	Brass
P	Phosphor bronze
N	Nickel silver
Y	Cast brass
A	Aluminum
Z	Zinc alloy
K	Polycarbonate

Shape of thread (fourth digit)

P	Cross recessed head screws	
(—)	Slotted head machine screws	
X	Slotted-cross recessed head machine screws	
K	Cross recessed head machine screws for precision equipment	(type 1)
H	"	(type 3)
A	Cross recessed head tapping screws	(type 1)
B	"	(type 2)
C	"	(type 3)
E	Cross recessed head special tapping screws	(brand : evertight)
F	"	(brand : P-tight)
T	"	(brand : taptight)
G	"	


– Shape of thread (fourth digit) –
Cross recessed head
Slotted head
Slotted-cross recessed head
P, (—), X, K, H
A
B
C
E
F
G
T

Nominal diameter (fifth and sixth digits)

The fifth and sixth digits are numbers indicating a nominal diameter or dimension. If the dimension exceeds 10 mm, three digits are used. The number indicates a nominal diameter or dimension, given in millimeters, multiplied by ten.

Length (seventh and eighth digits)

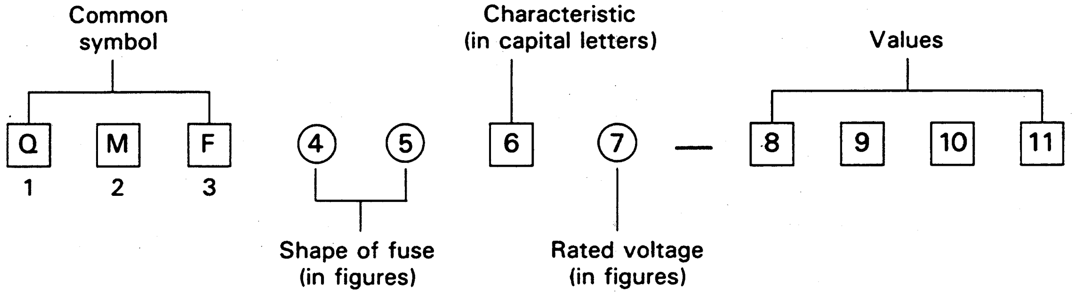
The seventh and eighth digits are numbers indicating length in milimeters. The preceding figure is zero when the dimension is smaller than 10 mm. For machine screws used in precision equipment whose length is given in units of 0.1 mm, the number indicates ten times the size of their length.

Surface treatment (ninth digit)

Z	Dichromate treatment after galvanizing (MFZn II-C)
N	Nickel plating (MFNi II, MFNi I)
R	Chromium plating (MBCr II, MBCr I)
G	Silver plating (SP4)
B	Black coating after plating
F	Blackening of iron (FB)
M	Blackening after galvanizing
K	Pickling of brass (PF2)
P	Phosphate treatment
W	Uni-chrome plating
L	Coating with transparent paint
A	Coloring red after galvanizing (MFZn II-C)
C	Coloring blue after galvanizing (MFZn II-C)
T	Coloring green after galvanizing (MFZn II-C)
V	Coloring purple after galvanizing (MFZn II-C)

5.1.2 Fuse coding

Standard fuse part numbers are as follows.


Common symbol
Characteristic
(in capital letters)
Values
Q
M
F
1
2
3
4
5
6
7
—
8
9
10
11
Shape of fuse
(in figures)
Rated voltage
(in figures)

Shape of fuse (fourth and fifth digits)

51	$\phi 5.2 \times 20$ mm
60	$\phi 6.4 \times 30$ mm
61	$\phi 6.35 \times 31.8$ mm
63	$\phi 6.4 \times 30$ mm with lead wires
66	$\phi 6.35 \times 31.8$ mm with lead wires
00	Special type

Rated voltage (seventh digit)

1	AC125 V
2	AC250 V
3	0.1–1 A : AC250 V 1.25–6.3 A : AC125 V

Values (eighth-tenth or eleventh digits)

example:

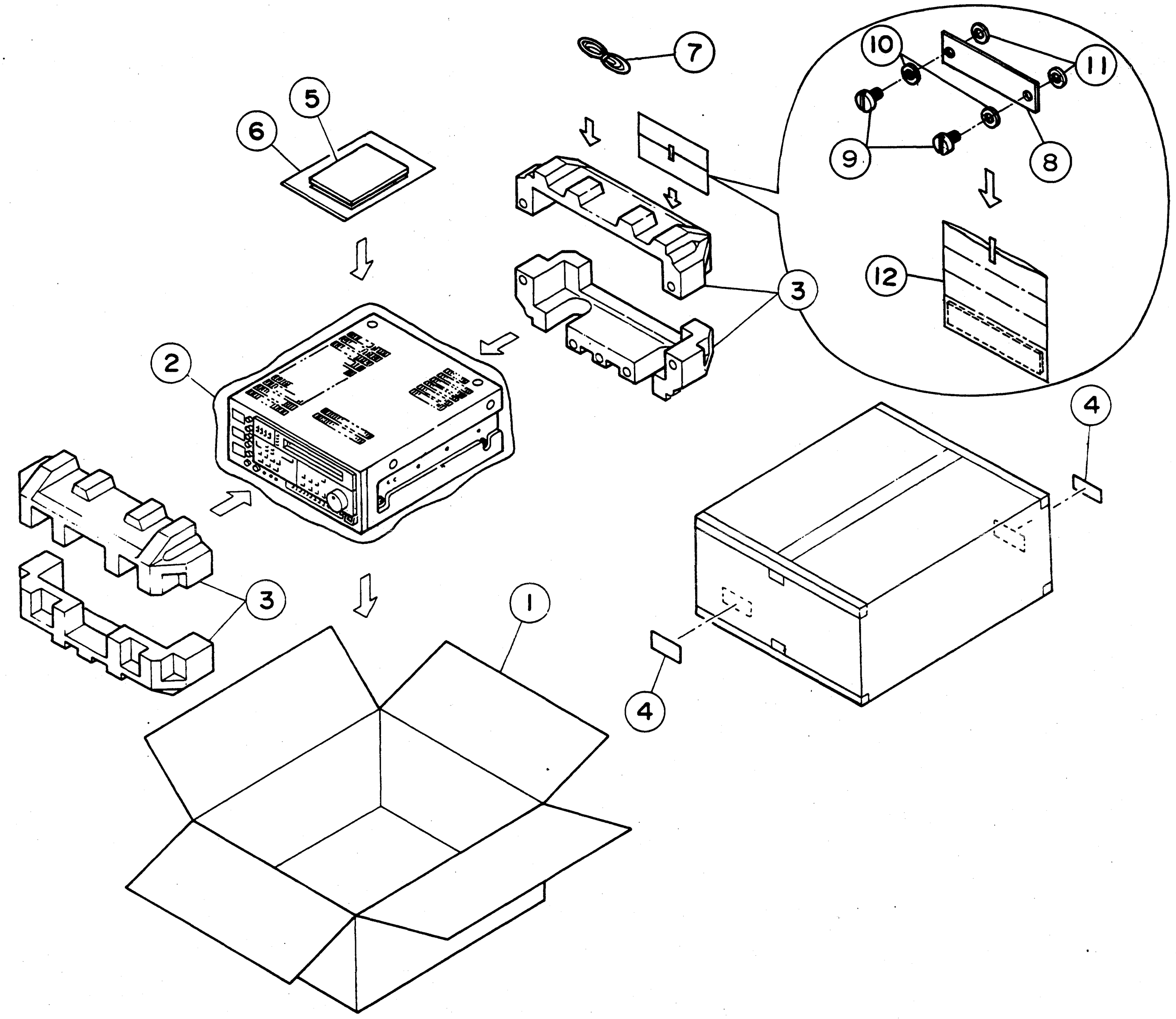
R63	.... 0.63 A
1R0	.... 1.0 A
2R5	.... 2.5 A
100	.... 10 A
R315	.... 0.315 A
1R25	.... 1.25 A

Characteristics (sixth digit)

Symbol	Fusing Current	Fusing Time	Remarks
A	210 %	Within 2 min.	Anti-rush type (for Europe)
	275 %	0.6 – 10 sec.	
	400 %	0.15 – 3 sec.	
	1000 %	0.02 – 0.3 sec.	
B	210 %	Within 30 min.	Regular fusible type (for SEMKO, Europe)
	275 %	0.05 – 2 sec.	
	400 %	0.01 – 0.3 sec.	
C	135 %	Within 1 hr.	Regular fusible type (for UL, Japan)
	200 %	Within 2 min.	
E	210 %	Within 2 min.	Anti-rush type (for Europe)
	275 %	0.6 – 10 sec.	
	400 %	0.15 – 3 sec.	
	1000 %	0.02 – 0.3 sec.	
J	135 %	Within 1 hr.	Anti-rush type
	200 %	Within 2 min.	
M	135 %	Within 1 hr.	Regular fusible type (for UL)
	200 %	Within 2 min.	
R	160 %	Within 1 hr.	Regular fusible type
	200 %	Within 2 min.	
S	160 %	Within 1 hr.	Anti-rush type
	200 %	Within 2 min.	
	700 % – 2000 %	Within 0.01 sec.	
U	135 %	Within 1 hr.	Anti-rush type (for UL)
	200 %	Within 2 min.	
	800 % – 2000 %	Within 0.01 sec.	

5.2 EXPLODED VIEWS AND PARTS LIST

5.2.1 Packing assembly M1



```
#⚠ REF NO. PART NO.         PART NAME, DESCRIPTION
--- ------- --------------- ---------------------------
*************************************************************

    ***************************************************
    *       1. PACKING ASSEMBLY <M1>                  *
    ***************************************************

    1      PGD20149-15      PACKING CASE,BR-S811E
           PGD20149-16      PACKING CASE,BR-S611E
    2      PGD30005-03      POLY BAG
    3      PGD10108A-05     CUSHION ASSY
    4      PUP40619         SERIAL NO.STICKER, X2
⚠   5      PGD30002-158-01  INSTRUCTIONS,BR-S811E
           PGD30002-159-01  INSTRUCTIONS,BR-S611E
    6      QPGB024-03404    POLY BAG
    7      PGZ00752-01-01   CABLE ASSY
    8      PGD20204-11      SWITCH COVER,BR-S811E
           PGD20204-12      SWITCH COVER,BR-S611E
    9      PGD40862         COIN SCREW, X2
    10     Q03093-825       WASHER, X2

    11     PUM30017-6       SPACER, X2
    12     QPGA025-03505    POLY BAG
```

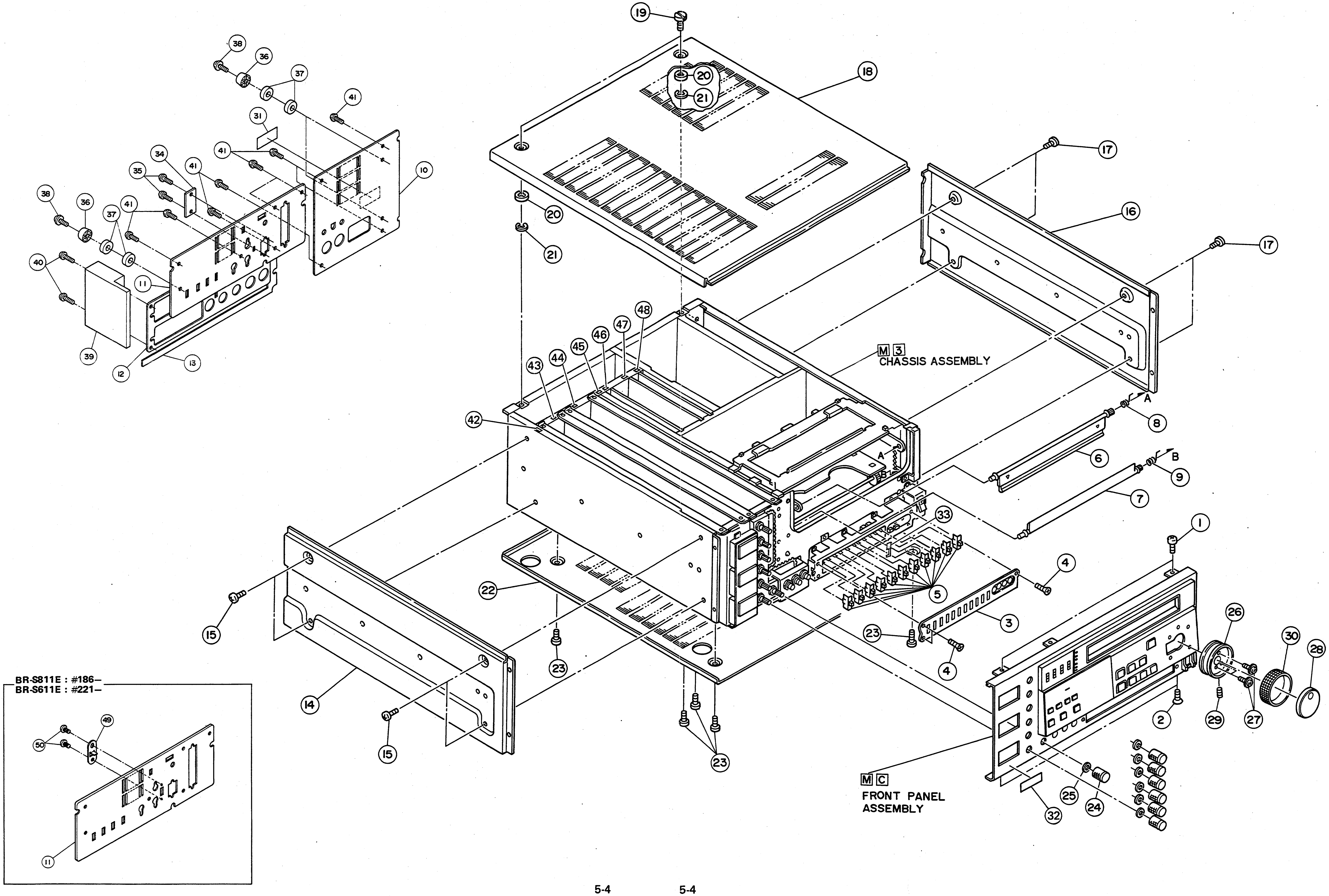
- When shipped from the factory the switches and VR's are set as shown below tables.

FRONT PANEL	
VIDEO LEVEL VR	CENTER
NORMAL AUDIO REC LEVEL VR	
RIGHT	CENTER
LEFT	CENTER
HiFi AUDIO REC LEVEL VR	
RIGHT	CENTER
LEFT	CENTER
PHONES LEVEL VR	CENTER
SEARCH VR	CENTER
AUDIO MONITOR SELECT SW	MIX/HiFi
VIDEO INPUT SW	Y/C 443
REC MODE	S-VHS

(Inside switch cover)	
REMOTE SW	LOCAL
AUTO MODE SW	OFF
SYNC SW	VIDEO
FRAME SERVO SW	COLOUR FRAME (BR-S811E) ON (BR-S611E)
Y/C627 OUT SW	S-VHS
VIDEO DUB SW	OFF
VIDEO AGC SW	ON
NORMAL LINE OUT	NORM
HiFi REC SW	ON
NR SW	ON
LIMITER SW	ON

REAR PANEL	
TIME CODE SW	AUD-2
TBC SW	OFF
AUDIO INPUT SELECT SW	SEP
TIMER SW (BR-S611E ONLY)	OFF
NORMAL INPUT LEVEL	+ 4 dB
HiFi INPUT LEVEL	+ 4 dB
AUDIO OUT	+ 4 dB
AUDIO IN HiFi (600 Ω)	OFF
AUDIO IN NORMAL (600 Ω)	OFF
VOLTAGE SELECTOR	240 V

5.2.2 Cabinet assembly M2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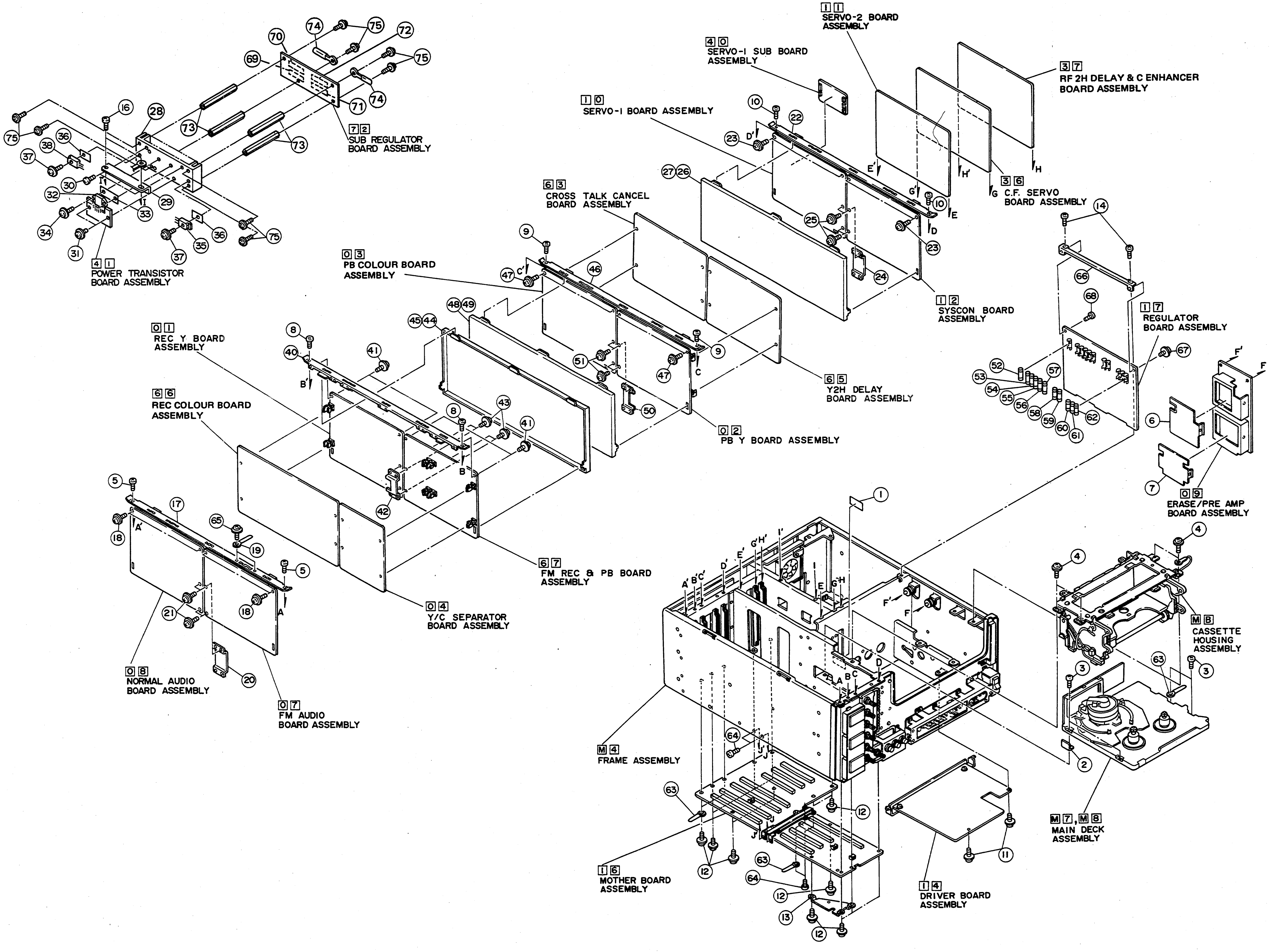
A
B
M3 CHASSIS ASSEMBLY
MC FRONT PANEL ASSEMBLY
BR-S811E : #186—
BR-S611E : #221—

2. CABINET ASSEMBLY <M2>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	1	SDSP3006R	SCREW, X3
	2	SSSP3006R	SCREW, X2
	3	PGD30431-03-02	SWITCH PANEL,BR-S811E
		PGD30431-04	SWITCH PANEL,BR-S611E
	4	SSSP2004M	SCREW, X3
	5	PGD40422	SLIDE KNOB(B), X11
	6	PRD30181C	UPPER DOOR ASSY
	7	PQ30030-8-15	LOWER DOOR
	8	PQ40104-2	UPPER TORSION SPRING
	9	PQ40472	LOWER TORSION SPRING
	10	PRD30443-01-04	REAR PANEL(B)
	11	PRD30442-01-03	REAR PANEL(A),BR-S811E
		PRD30442-02-03	REAR PANEL(A),BR-S611E
⚠	12	PRD30444-01-02	REAR PANEL(C)
	13	PRD30445	REAR PANEL (D)
⚠	14	PGD10106-01-03	LEFT SIDE COVER
	15	SDSP4008R	SCREW, X4
⚠	16	PGD10107-01-03	RIGHT SIDE COVER
	17	SDSP4008R	SCREW, X4
⚠	18	PGD20150C	TOP COVER ASSY
	19	PGD40813	SCREW, X2
	20	PGD40255-02	SPACER, X2
	21	REE3000X	E WASHER, X2
⚠	22	PGD10104-02	BOTTOM COVER
	23	SBST3006Z	SCREW, X5
	24	PGD40249A	VR KNOB(A) ASSY, X7
	25	PGD40292	FELT WASHER, X7
	26	PRD30196	SEARCH KNOB
	27	DPSP2005Z	SCREW, X3
	28	PRD41819A	JOG KNOB ASSY
	29	YWS3004B	SET SCREW
	30	PRD41818	TIRE
⚠	31	PGD30021-23	SERIAL NO PLATE,BR-S811E
⚠		PGD30021-24	SERIAL NO PLATE ,BR-S611E
	32	PQ40111-1-5	SERIAL NO PLATE
	33	PRD42475	KNOB LOCK,BR-S611E
	34	PRD42224	COVER
	35	SDSP2606M	SCREW, X2
	36	QZF2115-002	FOOT, X3
	37	PRD42003	SPACER, X6
	38	SDSP3030M	SCREW, X3
	39	PRD30464A	FOOT ASSY
	40	SDSP3030M	SCREW, X2
	41	SDSP3006M	SCREW, X8
	42	PRD30072-02	STICKER,A
	43	PRD30072-03	STICKER,V-1
	44	PRD30072-04	STICKER,V-2
	45	PRD30072-05	STICKER,S/S
	46	PRD30072-06	STICKER,S-2
	47	PRD30072-09	STICKER,RF
	48	PRD30072-10	STICKER,CF
BR-S811E #186 –			
BR-S611E #221 –			
	11	PRD30442-01-04	REAR PANEL (A), BR-S811E
		PRD30442-02-04	REAR PANEL (A), BR-S611E
	49	PRD42847	PROTECTOR
	50	SDSP2604M	SCREW, X2

5.2.3 Chassis assembly M3


11
SERVO-2 BOARD ASSEMBLY
40
SERVO-1 SUB BOARD ASSEMBLY
37
RF 2H DELAY & C ENHANCER BOARD ASSEMBLY
10
SERVO-1 BOARD ASSEMBLY
36
C.F. SERVO BOARD ASSEMBLY
63
CROSS TALK CANCEL BOARD ASSEMBLY
12
SYSCON BOARD ASSEMBLY
72
SUB REGULATOR BOARD ASSEMBLY
41
POWER TRANSISTOR BOARD ASSEMBLY
03
PB COLOUR BOARD ASSEMBLY
01
REC Y BOARD ASSEMBLY
66
REC COLOUR BOARD ASSEMBLY
65
Y2H DELAY BOARD ASSEMBLY
02
PB Y BOARD ASSEMBLY
17
REGULATOR BOARD ASSEMBLY
09
ERASE/PRE AMP BOARD ASSEMBLY
67
FM REC & PB BOARD ASSEMBLY
04
Y/C SEPARATOR BOARD ASSEMBLY
08
NORMAL AUDIO BOARD ASSEMBLY
07
FM AUDIO BOARD ASSEMBLY
M4
FRAME ASSEMBLY
M8
CASSETTE HOUSING ASSEMBLY
M7, M8
MAIN DECK ASSEMBLY
16
MOTHER BOARD ASSEMBLY
14
DRIVER BOARD ASSEMBLY
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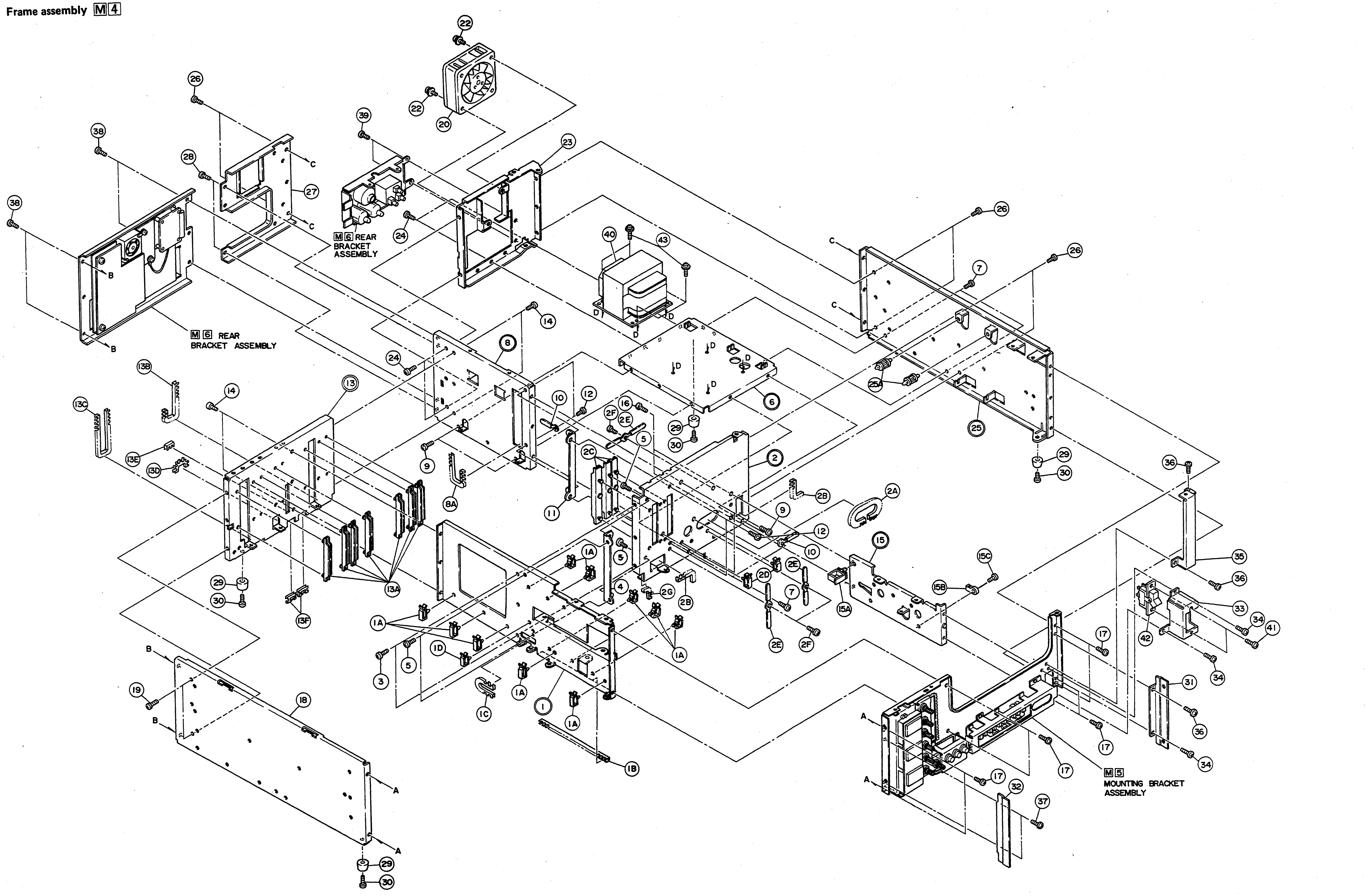
J
J'

3. CHASSIS ASSEMBLY <M3>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
⚠	1	PU42091	NO.PLATE
	2	PGD40822	SPACER
	OR	PGD40822-02	SPACER
	3	LPSP3008Z	ASSY SCREW, X4
	4	DPSP3008Z	SCREW, X4
	5	SBST3006Z	SCREW, X2
	6	PRD30274	SHIELD COVER,BR-S811E
	7	PRD30275	SHIELD COVER
	8	SBST3006Z	SCREW, X2
	9	SBST3006Z	SCREW, X2
	10	SBST3006Z	SCREW, X2
	11	DPSP3008Z	SCREW,X2
	12	GBST3008Z	SCREW, X14
	13	PRD42127	SPACER
	14	SBST3006Z	SCREW, X2
	16	SBST3006Z	SCREW, X2
	17	PGD20137-01-04	PWB BRACKET(C)
	18	GBST3006Z	SCREW, X4
	19	PU49485-2	WIRE CLAMP, X2
	20	PGD40680	PWB BRACKET(C)
	21	GBST3006Z	SCREW, X4
	22	PGD20137-01-04	PWB BRACKET(C)
	23	GBST3006Z	SCREW, X4
	24	PGD40680	PWB BRACKET(A)
	25	GBST3006Z	SCREW, X4
	26	PGD30400	INSULATOR
	27	PGD20156-01-02	SHIELD CASE(E)
	28	PRD30450	HEAT SINK
	29	PGD30375-01-01	HEAT SINK BRACKET
	30	LPSP3008Z	ASSY SCREW, X2
	31	DPSP3008Z	SCREW, X2
⚠	32	STR9012	IC , IC3
	33	PGZ00151	TRNSISTOR SPACER
	34	DPSP3012Z	SCREW, X2
⚠	35	SI-3522V	IC , IC2
	36	PGZ00171	TRANSISTOR SPACER, X2
	37	DPSP3012Z	SCREW, X2
⚠	38	SI-3522V	IC , IC1
	40	PGD20137-01-04	PWB BRACKET(C)
	41	GBST3006Z	SCREW, X4
	42	PGD40680-02	PWB BRACKET(A)
	43	GBST3006Z	SCREW, X4
	44	PGD20148-01-02	SHIELD CASE(A)
	45	PGD30400	INSULATOR
	46	PGD20137-01-04	PWB BRACKET(C)
	47	GBST3006Z	SCREW, X4
	48	PGD20156-01-02	SHIELD CASE(E)
	49	PGD30400	INSULATOR
	50	PGD40680-02	PWB BRACKET(A)
	51	GBST3006Z	SCREW, X4
⚠	52	QMF51E2-5R0	FUSE,F3
⚠	53	QMF51E2-R80	FUSE,F4
⚠	54	QMF51E2-2R5	FUSE,F5
⚠	55	QMF51E2-1R0	FUSE,F6
⚠	56	QMF51E2-1R0	FUSE,F7
⚠	57	QMF51E2-1R6	FUSE,F8
⚠	58	QMF51E2-1R6	FUSE,F9
⚠	59	QMF51E2-1R0	FUSE,F10
⚠	60	QMF51E2-2R5	FUSE,F11
⚠	61	QMF51E2-2R0	FUSE,F12
⚠	62	QMF51E2-5R0	FUSE,F13
	63	PU49485-4	WIRE CLAMP, X5
	64	SBST3006Z	SCREW, X2
	65	SBST3006Z	SCREW, X2
	66	PGD30372	PWB BRACKET
	67	GBST3006Z	SCREW
	68	SBST3006Z	SCREW
⚠	69	QMF51E2-2R0	FUSE,F14
⚠	70	QMF51E2-2R0	FUSE,F15
⚠	71	QMF51E2-R80	FUSE,F16
⚠	72	QMF51E2-R80	FUSE,F17
	73	PRD42556-04	SHAFT, X4
⚠	74	PU49485-3	WIRE CLAMP, X2
	75	DPSP3008Z	SCREW, X8

5.2.4 Frame assembly M4



M6 REAR BRACKET ASSEMBLY
M6 REAR BRACKET ASSEMBLY
M5 MOUNTING BRACKET ASSEMBLY
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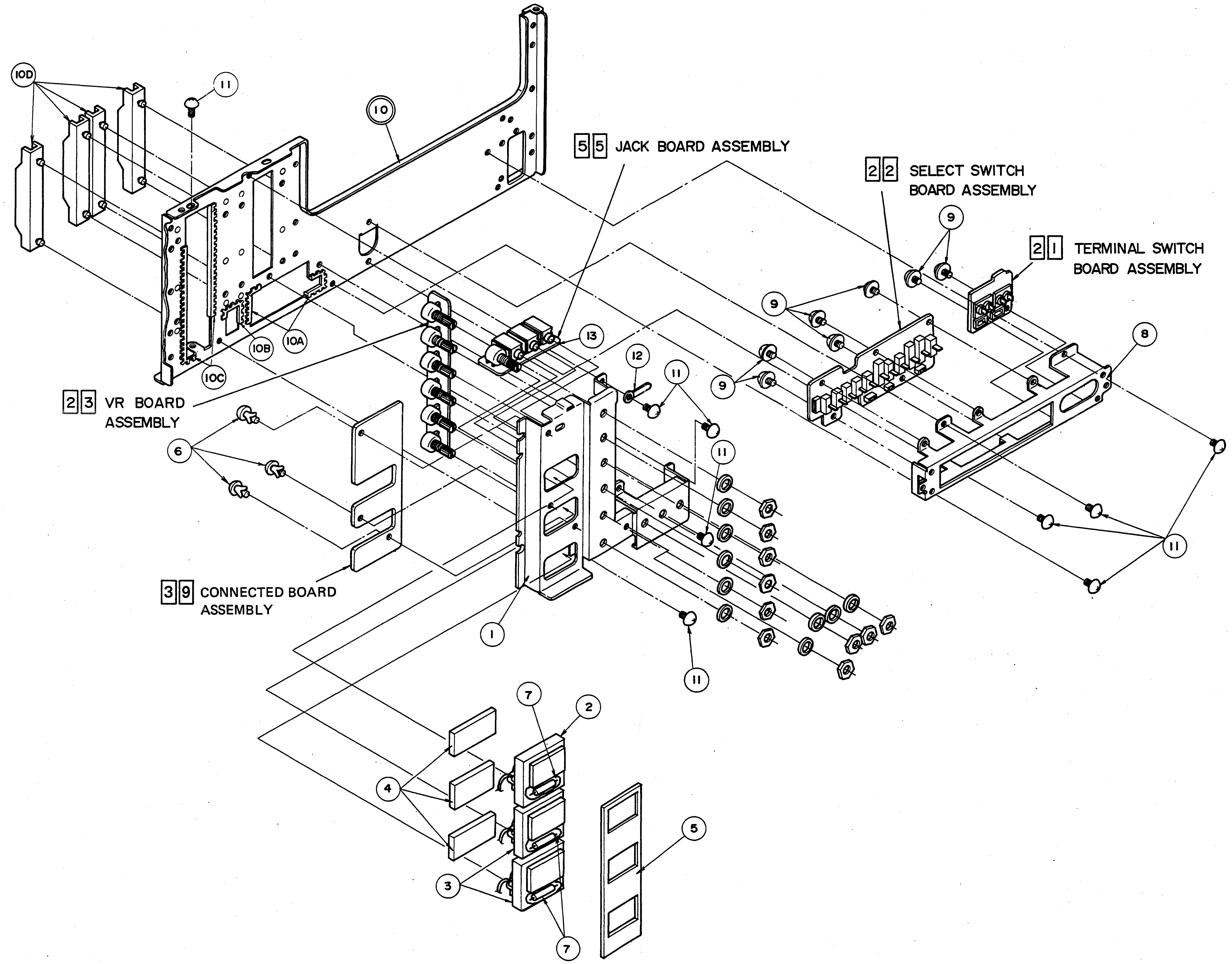
4. FRAME ASSEMBLY <M4>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	1	PGD20161B-06	CENTER STAY ASSY
	1A	PU48016-2	MINI CLAMP, X10
	1B	PU43172-9-170	NYLON GROMMET
	1C	PU43172-9-60	NYLON GROMMET
	1D	PU48016	MINI CLAMP
	2	PGD20152B-08	REAR FRAME(A) ASSY
	2A	PU43172-9-120	NYLON GROMMET
	2B	PU43172-9-60	NYLON GROMMET, X2
	2C	PGZ00493-02	GUIDE RAIL, X3
	2D	PU48016-2	MINI CLAMP, X3
	2E	PU49486	WIRE CLAMP, X3
	2F	SBST3006Z	SCREW, X3
	2G	PU43172-9-30	NYLON GROMMET
	3	SBST3006Z	SCREW, X3
	4	PGD40700	REINFORCE BRACKET
	5	SBST3006Z	SCREW, X4
	6	PRD20205A	TRANS FRAME ASSY
	6A	PU43981	HOLDER, X2
	6B	SBST3006Z	SCREW, X2
	7	SBST3006Z	SCREW, X4
	8	PGD20153A-02	POWER FRAME ASSY
	8A	PU43172-9-70	NYLON GROMMET
	9	SBST3006Z	SCREW, X4
	10	PU49485-2	WIRE CLAMP, X2
	11	PGD40700	REINFORCE BRACKET
	12	SBST3006Z	SCREW, X4
	13	PRD20095A-02	REAR FRAME ASSY
	13A	PGZ00493-02	GUIDE RAIL, X7
	13B	PU43172-9-100	NYLON GROMMET, X2
	13C	PU43172-9-200	NYLON GROMMET
	13D	PU43172-9-35	NYLON GROMMET
	13E	PU43172-9-08	NYLON GROMMET
	13F	PU48086	EDGE SADDLE
	14	SBST3006Z	SCREW, X4
	15	PGD30392A-02	RIGHT STAY ASSY
	15A	PU54969	WIRE CLAMP
	15B	PU43981	HOLDER, X2
	15C	SBST3006Z	SCREW
	16	SBST3006Z	SCREW, X2
	17	SBST3006Z	SCREW, X8
	18	PGD10102-02	LEFT SIDE FRAME
	19	SBST3006Z	SCREW, X2
	20	PGZ00708	FAN MOTOR
		OR PGZ01137	FAN MOTOR
		OR PGZ01136	FAN MOTOR
	21	PGD40106	SPACER, X2
	22	DPSP3030Z	SCREW, X2
		OR DPSP3025Z	SCREW, X2
	23	PGD20140	REAR FRAME(B)
	24	SBST3006Z	SCREW, X4
	25	PGD20164A-02	RIGHT SIDE FRAME ASSY
	25A	PU52455	P C SUPPORT, X2
	26	SBST3006Z	SCREW, X6
	27	PGD20158-01-04	REAR BRACKET(A)
	28	SBST3006Z	SCREW, X2
	29	QZF2115-002	FOOT, X4
	30	SBST3010Z	SCREW, X4
	31	PGD30393	ANGLE BRACKET(R)
	32	PGD30394	ANGLE BRACKET(L)
	33	PGD40851	POWER SWITCH BRACKET
	34	SBST3006Z	SCREW, X3
	35	PGD40852	FRONT PANEL BRACKET
	36	SBST3006Z	SCREW, X3
	37	SBST3006Z	SCREW, X2
	38	SBST3006Z	SCREW, X4
	39	SBST3006Z	SCREW, X2
	40	PGZ01203A	POWER TRANS ASSY
	41	LPSP3006Z	SCREW, X2
	42	PGZ00479	SEESAW SWITCH
	43	DPSP4008Z	ASSY SCREW, X4

5.2.5 Mounting bracket assembly M5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5 5 JACK BOARD ASSEMBLY
2 2 SELECT SWITCH BOARD ASSEMBLY
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2 1 TERMINAL SWITCH BOARD ASSEMBLY
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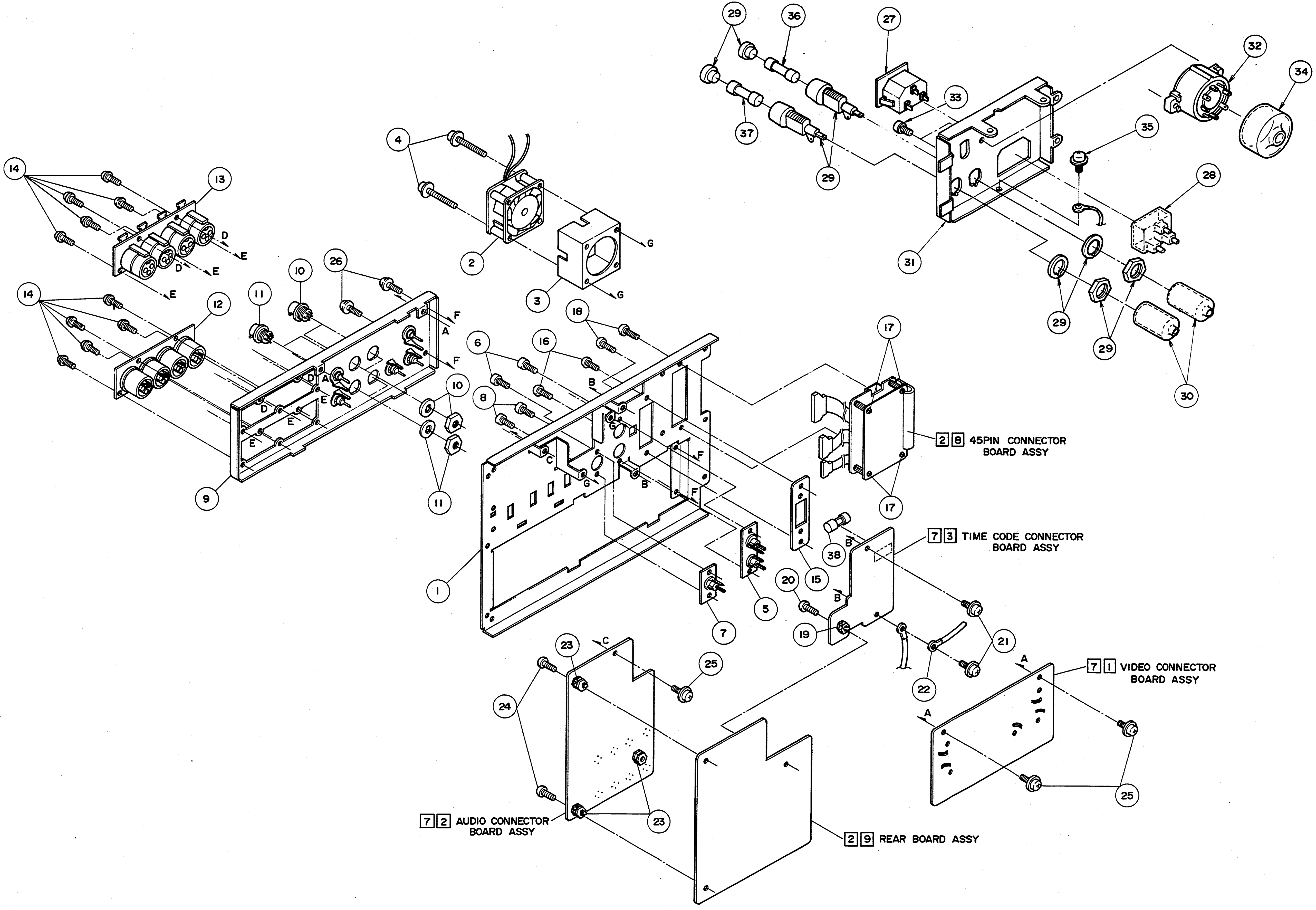
5. MOUNTING BRACKET ASSEMBLY <M5>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	1	PGD20205-01-02	VR/METER JACK BRACKET
	2	PGZ01244-04	METER(VIDEO/TRACKIMG)
	3	PGZ01244-07	METER(AUDIO), X2
	4	PGD40056-03	METER CUSHION, X3
	5	PGD40057-02	METER SHEET
	6	PGZ00136	PLASTIC RIVET, X3
	7	PU53866-LAMP	METER LAMP,X3
	8	PGD30429	FRONT SWITCH BRACKET
	9	SBST3005Z	SCREW, X7
	10	PGD20200A-02	FRONT BRACKET(2) ASSY
	10A	PU43172-9-40	NYLON GROMMET, X2
	10B	PU43172-9-50	NYLON GROMMET
	10C	PU43172-9-120	NYLON GROMMET, X2
	10D	PGZ00493-02	GUIDE RAIL, X4
	11	SBST3006Z	SCREW, X8
	12	PU49485-2	WIRE CLAMP
	13	PRD42261	SHIELD CUSHION

6. REAR BRACKET ASSEMBLY <M6>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	1	PRD20202-01-02	REAR BRACKET(C)
	2	PGZ01182	FAN MOTOR
	3	PRS40010	SHIELD CASE
	4	DPSP3025Z	SCREW, X2
	5	PGZ00221-2	2P JACK ASSY
	6	LPSP3008Z	ASSY SCREW, X2
	7	PGZ01207	1P JACK ASSY
	8	LPSP3008Z	ASSY SCREW, X2
	9	PGZ01206	CONNECTOR ASSY
	10	PGZ00592	7P CONNECTOR, X2
	11	PGZ00593	7P CONNECTOR, X2
	12	PGZ01208	XLR CONNECTOR(M)
	13	PGZ01209	XLR CONNECTOR(F)
	14	SDSP2606N	SCREW, X10
	15	PRD42057	15P PLATE
	16	SBST3006Z	SCREW, X2
	17	PGZ00756	PC SUPPORT, X4
	18	SBST3006Z	SCREW, X2
	19	PGZ01031-03	PC SUPPORT
	20	SPSB3506Z	SCREW
	21	DPSP3008Z	SCREW, X2
	22	PU49485-4	WIRE CLAMP
	23	PGZ01031-03	PC SUPPORT, X3
	24	SPSB3506Z	SCREW, X2
	25	DPSP3008Z	SCREW,X3
	26	SDSP3006M	SCREW, X2
⚠	27	PGZ00760	AC INLET
	28	PU52931	CONNECTOR COVER
⚠	29	QMG0301-004	FUSE HOLDER, X2
⚠	30	PU50316	FUSE COVER, X2
	31	PGD30369-02-02	AC BRACKET
⚠	32	QSR0085-102	VOLTAGE SELECTOR
	33	LPSP3008Z	ASSY SCREW, X2
	34	PU54680	VOLTAGE SELECTOR COVER
	35	DPSP4008N	SCREW
⚠	36	QMF51E2-2R5	FUSE,F1
⚠	37	QMF51E2-1R25	FUSE,F2
	38	PGZ01032	HOUR METER

5.2.6 Rear bracket assembly M 6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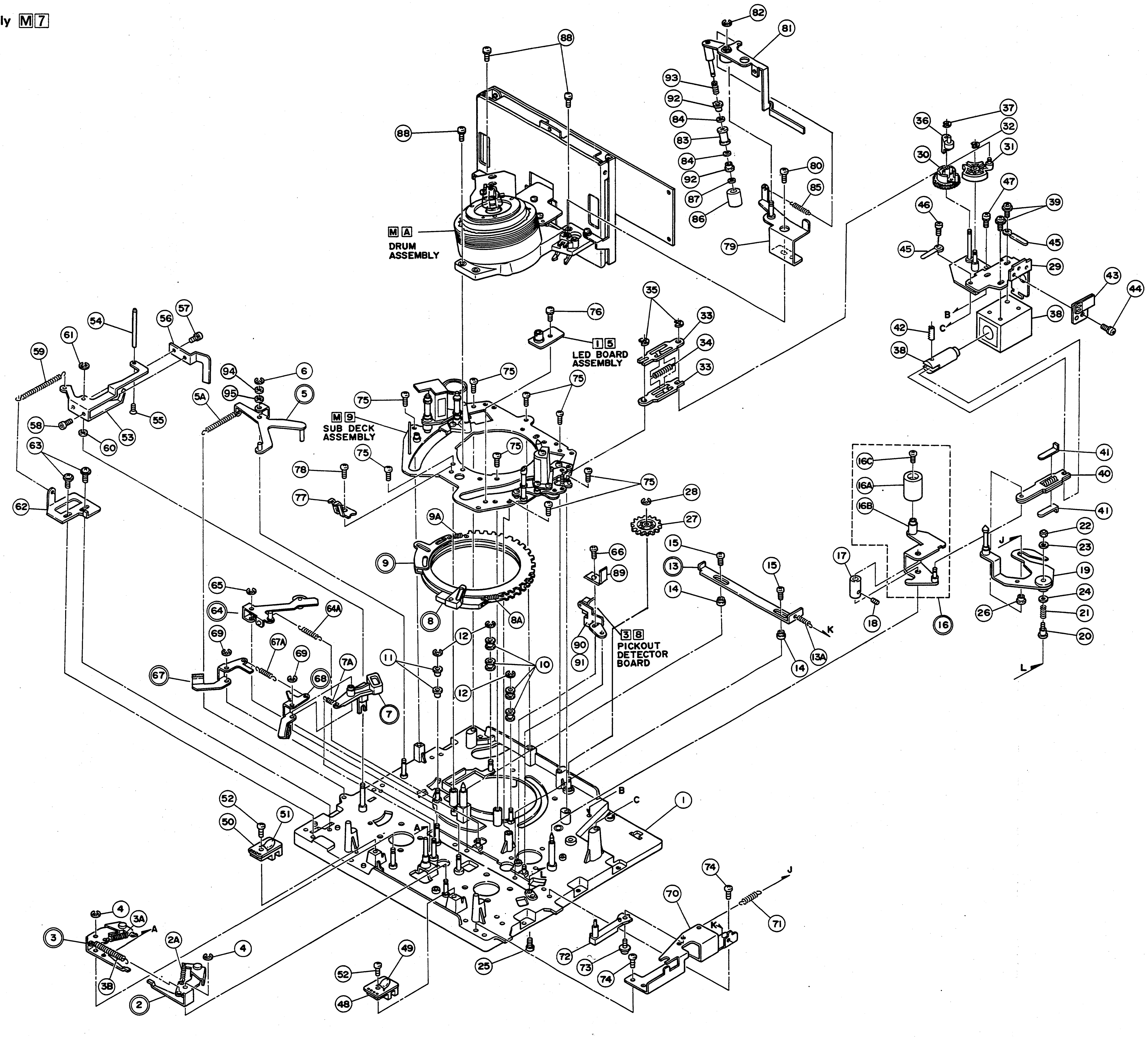
7 2 AUDIO CONNECTOR BOARD ASSY
2 9 REAR BOARD ASSY

5.2.7 Main-deck (1) assembly M7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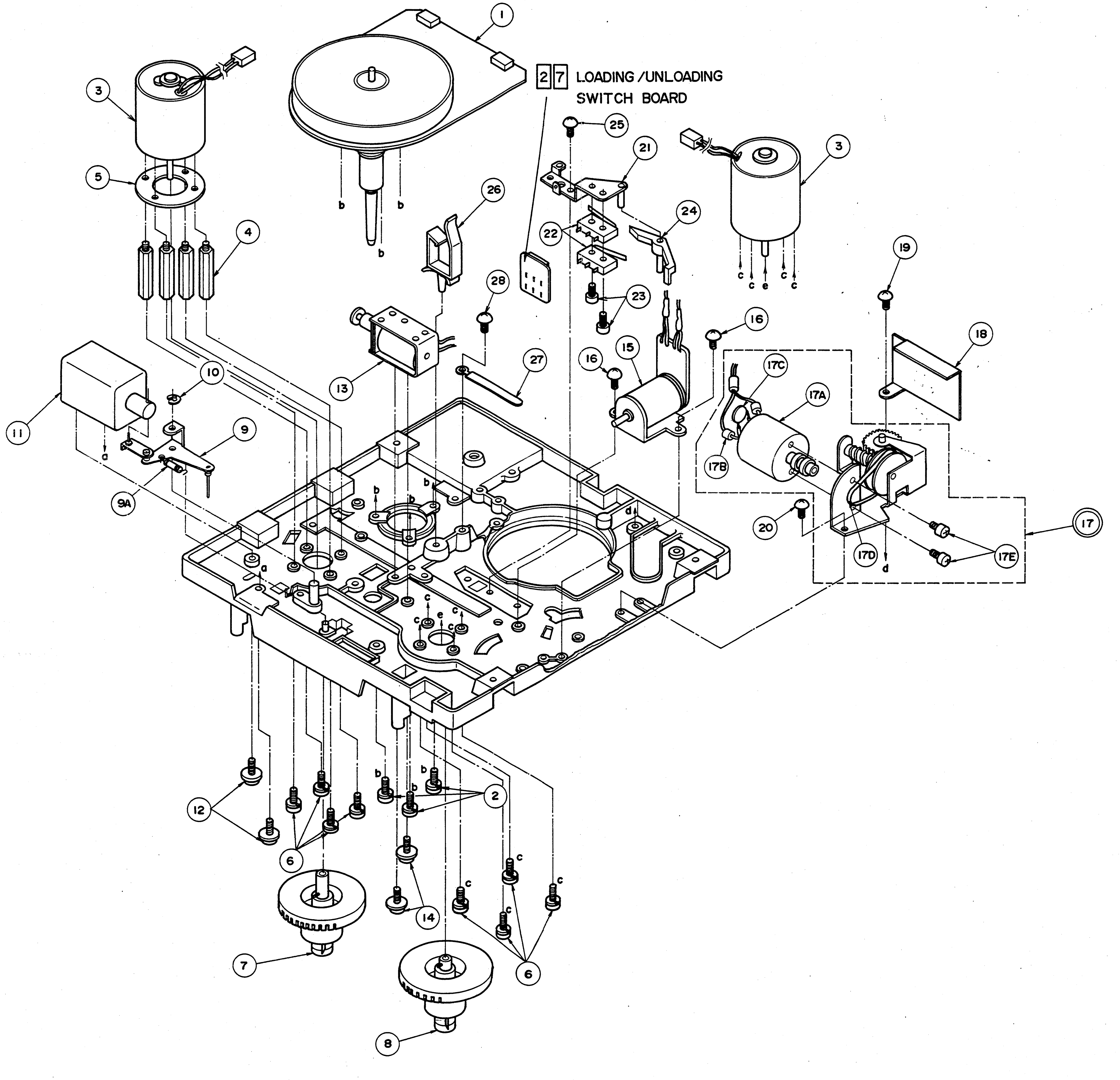
7. MAIN DECK (1) ASSEMBLY <M7>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	1	PU21159F-07	MAIN DECK ASSY
	2	PU50535G	TAKE UP BRAKE ASSY
	2A	PUM30001-7	SPRING
	3	PU50535F	SUPPLY BRAKE ASSY
	3A	PUM30001-7	SPRING
	3B	PUM30001-46	SPRING
	4	REE3000	E RING, X2
	5	PU50545A-5	CANCEL LEVER ASSY
	5A	PUM30001-32	SPRING
	6	REE3000	E RING
	7	PU50547A	BACK TENSION LEVER
	7A	PUM30001-6	SPRING
	8	PU48838D	DRIVE RING ASSY(T)
	8A	PU35005-81	SPRING
	9	PU48837B	DRIVE RING ASSY (S)
	9A	PU35005-81	SPRING
	10	PU48711	PULLEY, X4
	11	PU50758	PULLEY, X2
	12	REE3000	E RING
	13	PRD40002A-2	SLIDE BAR ASSY
	13A	PGD30003-2	SPRING
	14	PUM30013	FRANGE COLLAR, X2
	15	SDST3006Z	SCREW, X2
	16	PRD40042A-2	PINCH ROLLER ASSY
	16A	PQ40137A	PINCH ROLLER ASSY
	16B	PRD40014A-2	PINCH ROLLER ARM ASSY
	16C	LPSP2604Z	SCREW
	17	PRD40037	STOP RING
	18	YFS3003S	SET SCREW
	19	PRD42495A	TAPE GUIDE ARM ASSY
	20	PGD40115-01-01	STUD
	21	PRD30023-8	COMPRESSION SPRING
	22	PU49276	NYLON NUT
	23	Q03093-826	WASHER
	24	Q03093-819	WASHER
	25	LPSP2608Z	SCREW
	26	PGD40114	GUIDE ROLLER
	27	PRD40073	IDLE GEAR
	28	REE2500	E RING
	29	PRD42065A	SOLENOID BRACKET ASSY
	30	PRD42068A-01	HALF LOADING GEAR ASSY
	31	PRD42073A	GENEVA GEAR ASSY
	32	REE2500	E RING
	33	PRD42096	SPLING LEVER, X2
	34	PRD30023-19	COMPRESSION SPRING
	35	REE2500	E RING
	36	PRD42075A	CLEANER LEVER ASSY
	37	REE2500	E RING
	38	PGZ00093	SOLENOID
	39	DPSP3005Z	SCREW, X2
	40	PU51141A	SOLENOID LEVER ASSY
	41	PU47327	SPACER, X2
	42	PRE3010	SPRING PIN
	43	PU56637B	DEW SENSOR ASSY
	44	LPSP2606Z	SCREW
	45	PU49485-4	WIRE CLAMP
	46	SBST3006Z	SCREW
	47	DPSP3006Z	SCREW
	48	PU55701	PHOTO INTERRAPTER
	49	QCF11HP-223	CAPACITOR
	50	PU55701	PHOTO INTERRAPTER
	51	QCF11HP-223	CAPACITOR
	52	SBST3008Z	SCREW, X2
	53	PU50581-1-2	TENSION ARM
	54	PU44852-2	TENSION POLE
	55	SSSP2605Z	SCREW
	56	PU50582	DIFFERENTIAL LEVER
	57	LPSP3006Z	ASSY SCREW
	58	BYS3006FS	SET SCREW
	59	PRD30024-29	SPRING
	60	Q03093-830	WASHER
	61	REE1500	E RING
	62	PRD40004-01-01	ADJUST LEVER
	63	NPSP3008Z	ASSY SCREW, X2
	64	PRD40005A	F.R.ARM ASS'Y
	64A	PUM30001-15	SPRING
	65	REE3000	E RING
	66	SBST3006Z	SCREW
	67	PRD40008C	BRAKE ARM ASSY
	67A	PRD30024-30	SPRING
	68	PRD40011B	BRAKE ARM ASSY
	69	REE3000	E RING, X2
	70	PRD42077	CASSETTE HOLDER
	71	PUM30001-44	SPRING
	72	PU59919-1-1	CASSETTE SWITCH
	73	DPSP2608Z	SCREW
	74	SBST3008Z	SCREW, X2
	75	SBST3008Z	SCREW, X8
	76	LPSP3004Z	SCREW
	77	PRD40300	EARTH PLATE
	78	SBST3008Z	SCREW
	79	PRD40511A-01	BRACKET ASSY
	80	LPSP3006Z	ASSY SCREW
	81	PRD42078A-03	CLEANER ARM ASSY
	82	REE2500	E RING
	83	PRD42118	CLEANER HOLDER
	84	PRD30021-2	BALL BEARING, X2
	85	PRD30024-8	SPRING
	86	PRD40510-01-02	CLEANER
	87	WDL165050	SLIT WASHER
	88	LPSP3010Z	SCREW, X3
	89	PRD42405	ADJUSTER
	90	PRD40007-1-1	BRACKET
	91	SBST3008Z	SCREW
	92	PRD41806	COLLAR, X2
	93	PRD30023-9	COMPRESSION SPRING
	94	Q03093-819	WASHER
	95	Q03093-818	WASHER

5.2.8 Main-deck (2) assembly M8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27 LOADING/UNLOADING SWITCH BOARD
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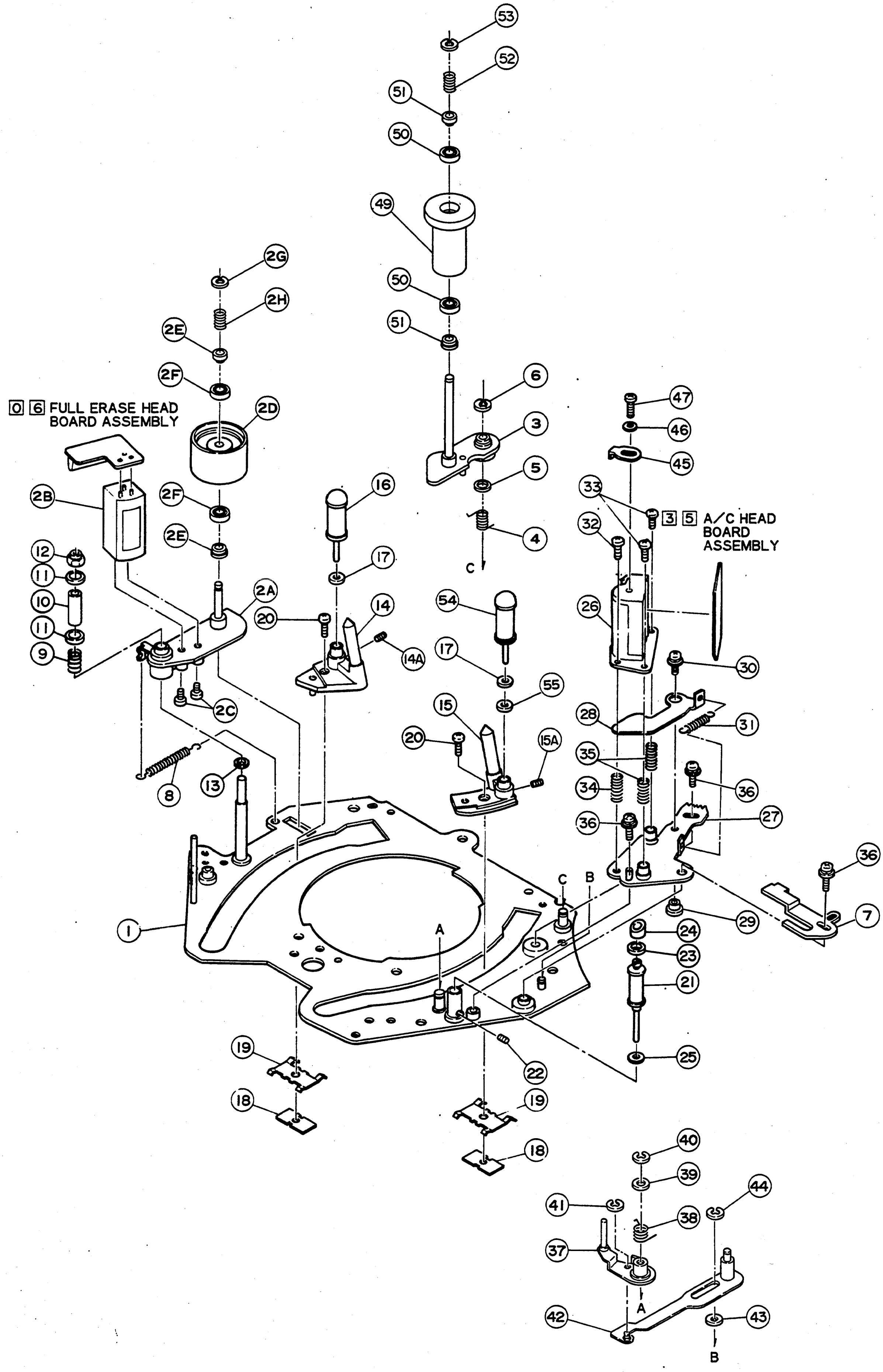
8. MAIN DECK (2) ASSEMBLY <M8>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
⚠	1	PGZ00735-01-02	CAPSTAN MOTOR
	2	LPSP3008Z	ASSY SCREW, X3
	3	PGZ00869	REEL MOTOR, X2
	4	PRD40441	CONNECTING ROD, X4
	5	PRD40525	SPACER
	6	LPSP3006Z	ASSY SCREW, X8
	7	PGZ00291A	TAKE UP REEL DISK ASSY
	8	PGZ00095A-1	SUPPLY REEL DISK ASSY
	9	PU50538A	CONNECTOR LEVER ASSY
	9A	PUM30001-6	SPRING
	10	REE3000	E RING
	11	PGZ00092	BRAKE TENSION SOLENOID
	12	DPSP3008Z	SCREW, X2
	13	PGZ00091	BRAKE TENSION SOLENOID
	14	DPSP2608Z	SCREW
	15	PGZ00767	DIFFERENTIAL TRANS ASSY
	16	SBST3006Z	SCREW, X2
	17	PGZ00343A	LOADING DRIVE GEAR ASSY
	17A	PU52745A	DC MOTOR ASSY
⚠	17B	PU45811	FERRITE BEADS, X2
	17C	QCF11HP-473	CAPACITOR
	17D	PU50350	BELT
	17E	LPSP2604Z	SCREW, X2
	18	PGD40135	GEAR COVER
	19	SBST3006Z	SCREW
	20	SBST3006Z	SCREW
	21	PU48952A-3	SWITCH BRACKET ASSY
	22	QSM1S11-211	MICRO SWITCH, X2
	23	SPBP2316N	SCREW, X2
	24	PU48955	SWITCH LEVER
	25	SBST3006Z	SCREW
	26	PU54969-2	WIRE CLAMP
	27	PU49485-3	WIRE CLAMP
	28	SBST3006Z	SCREW

5.2.9 Sub-deck assembly M9



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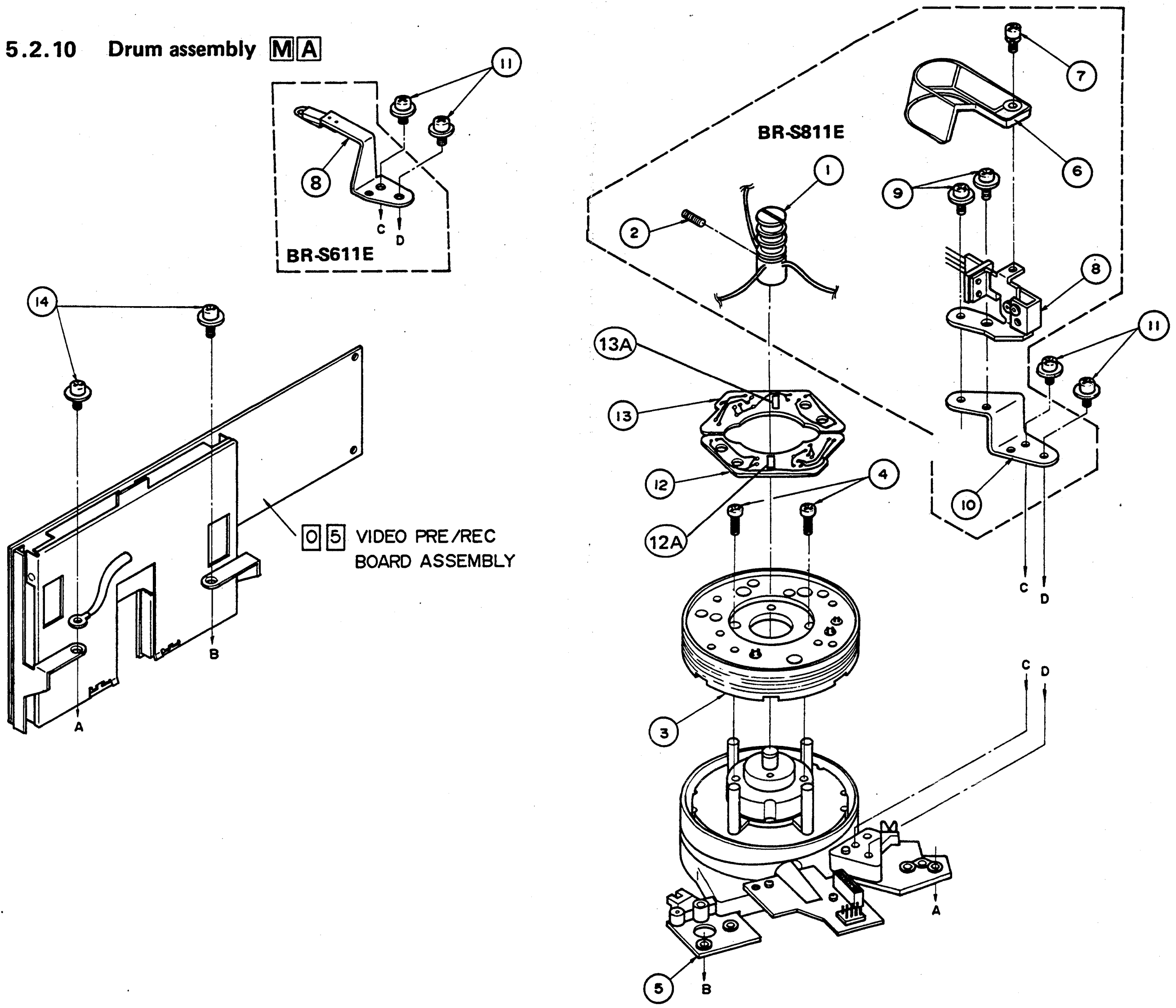
9. SUB DECK ASSEMBLY <M9>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	1	PRD30418B	SUB DECK SUB ASSY
	2	PRD42683A	ERASE HEAD ARM ASSY
	2A	PRD40087C	ERASE HEAD ARM SUB ASSY
	2B	PU54397	FULL ERASE HEAD
	2C	SSSP2005Z	SCREW, X2
	2D	PRD42663A	ROLLER ASSY
	2E	PRD41806	COLLAR, X2
	2F	PRD30021-12	BALL BEARING, X2
	2G	REE1500	E RING
	2H	PRD30023-9	COMPRESSION SPRING
	3	PRD42616A	GUIDE ASSY
	4	PRD42623-01-01	TORSION SPRING
	5	Q03093-828	WASHER
	6	REE2000	E RING
	7	PRD42625	STOPPER
	8	PUM30001-13	SPRING
	9	PUM30080-69	SPRING
	10	PU53826	GUIDE POLE
	11	PU51294	GUIDE FRANGE, X2
	12	PU49276	NYLON NUT
	13	Q03093-819	WASHER
	14	PRD40522A	SUPPLY POLE BASE ASSY
	14A	YFS3002.5FS	SET SCREW
	15	PRD40523A-01	TAKE UP POLE BASE ASSY
	15A	YFS3002.5FS	SET SCREW
	16	PGZ00833	GUIDE ROLLER ASSY
	17	PU48806-3	RUBBER TIRE, X2
	18	PU51638	PLATE, X2
	19	PU51299	SPRING PLATE, X2
	20	SPSP2606Z	SCREW, X2
	21	PRD40027C	TU TAPE GUIDE ROLLER ASSY
	22	YFS3002.5S	SET SCREW
	23	Q03093-817	SPACER
	24	PRD40030	CAP
	25	PU48806-3	RUBBER TIRE
	26	PGZ00989	AUDIO/CONTROL HEAD ASSY
	27	PRD42614A	HEAD BASE SUB ASSY
	28	PRD42624	GUIDE PLATE
	29	PRD42621	COLLER
	30	DPSP3006Z	SCREW
	31	PRD30024-44	SPRING
	32	SPSP2610Z	SCREW
	33	SPSP2608Z	SCREW, X2
	34	PGD30004-5	SRPING
	35	PU30080-49	SPRING, X2
	36	DPSP3006Z	SCREW, X3
	37	PRD42087A	HALF LOADING ARM ASSY
	38	PRD42091	TENSION SPRING
	39	PRD30029-03	WASHER
	40	REE2000	E RING
	41	REE1500	E RING
	42	PRD42092A	CONNECTOR ARM ASSY
	43	Q03093-828	WASHER
	44	REE2000	E RING
	45	PRS40004	SHIELD
	46	WNS2000N	WASHER
	47	HPSP201.8N	SCREW
	49	PRD42702	IMPEDANCE ROLLER
	50	PRD30021-12	BALL BEARING, X2
	51	PRD41806	COLLAR, X2
	52	PRD30023-9	COMPRESSION SPRING
	53	PQM30017	SLIT WASHER
	54	PGZ01141A	GUIDE ROLLER ASSY
	55	PQM30018-20	SPACER

5.2.10 Drum assembly MA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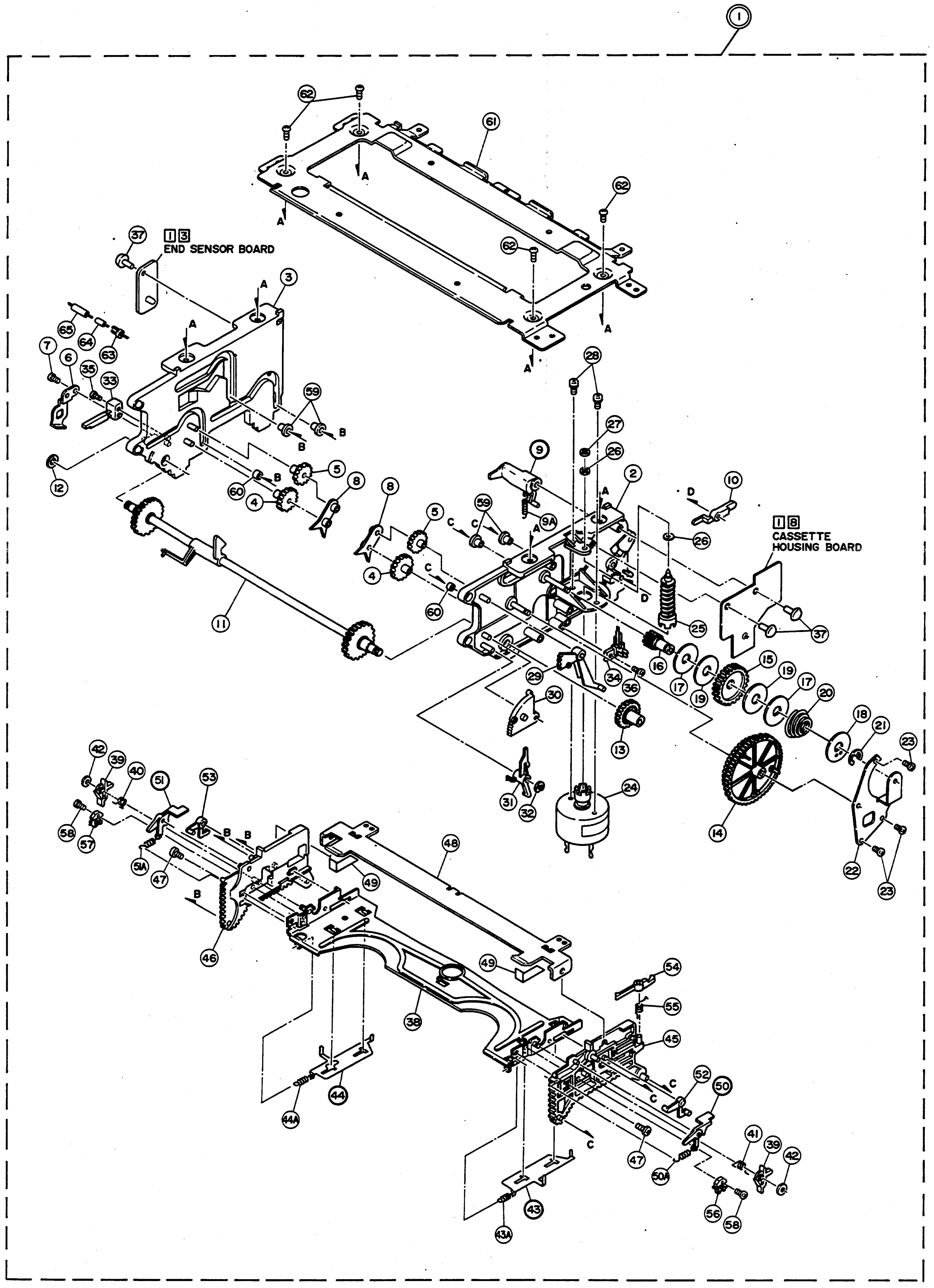
#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
			10. DRUM ASSEMBLY <MA>
		PDV2191A	DRUM ASSY,BR-S811E
		PDV2192B	DRUM ASSY,BR-S611E
	1	PGZ00116	SLIP RING ASSY,BR-S811E
	2	YFS3003B	SET SCREW,BR-S811E
	3	PDM2088D-12	UPPER DRUM ASSY,BR-S611E
		PDM2088B-12	UPPER DRUM ASSY,BR-S811E
	4	PDM4165A	DRUM SCREW ASSY, X2
	5	PDM2090C	LOWER DRUM MOTOR ASSY,BR-S811E
		PDM2090D	LOWER DRUM MOTOR ASSY,BR-S611E
	6	PRD41800	BRUSH COVER,BR-S811E
	7	LPSP2605Z	SCREW,BR-S811E
	8	PDM4154A-1	BRUSH ASSY,BR-S811E
		PDM4162B	BRUSH ASSY,BR-S611E
	9	DPSP2605Z	SCREW, X2,BR-S811E
	10	PDM4152	BRACKET,BR-S811E
	11	DPSP3006Z	SCREW, X2
	12	PDM4156A	UPPER DRUM BOARD ASSY,BR-S811E
		PDM3170	UPPER DRUM BOARD
	12A	QCT81CH-122	CAPACITOR,BR-S811E
	13	PDM4156B	UPPER DRUM BOARD ASSY,BR-S811E
	13A	QCT81CH-122	CAPACITOR,BR-S811E
	14	DPSP3006Z	SCREW, X2

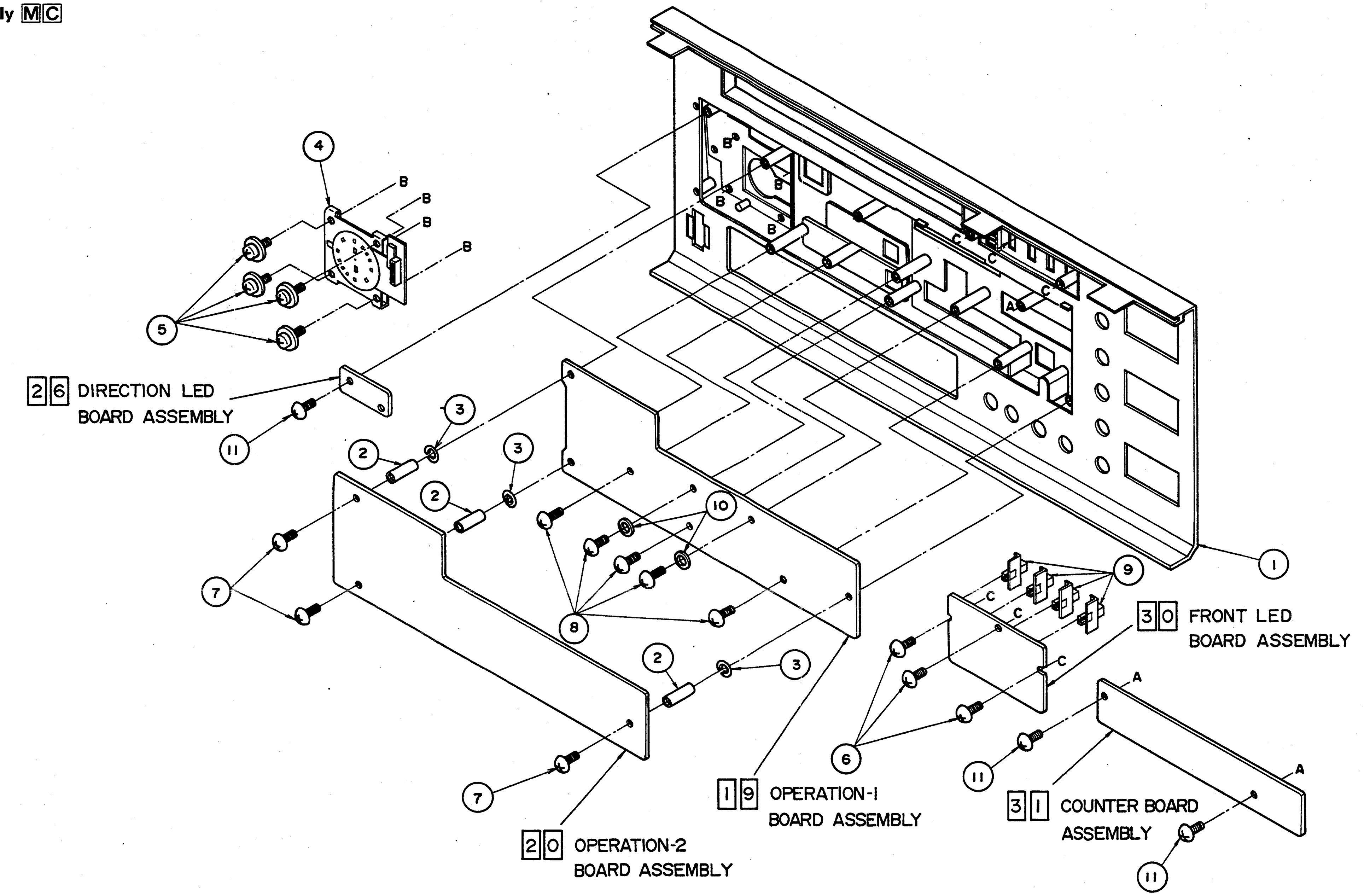
5.2.11 Cassetts housing assembly MB


1
62
61
A
1 3 END SENSOR BOARD
37
3
65
64
63
7
6
35
33
59
B
28
27
26
9
2
10
D
1 B CASSETTE HOUSING BOARD
12
60
4
5
8
9A
C
11
25
16
17
19
15
20
18
21
23
29
30
34
36
13
31
32
24
14
22
42
39
40
51
53
58
57
51A
47
46
48
49
38
44
44A
54
55
45
52
50
41
50A
56
43
43A

11. CASSETTE HOUSING ASSEMBLY <MB>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	1	PGS20108E	CASSETTE HOUSING ASSY
	2	PRD30126A-02	GEAR STAY(R) ASSY
	3	PRD30125A-02	GEAR STAY(L) ASSY
	4	PQ40059	GEAR-1, X2
	5	PRD40270	GEAR-2, X2
	6	PRD40532	SWITCH COVER
	7	SBSE2608Z	SCREW
	8	PQ40061	DOUBLE CAP, X2
	9	PQ40102A-1	DOOR GUIDE ASSY
	9A	PUM30001-111	SPRING
	10	PQ40063	GUIDE LEVER
	11	PRD40119A-1	CONNECT GEAR ASSY
	12	PUM30017-11	SLIT WASHER
	13	PRD40118	CAM GEAR(2)
	14	PRD30124	MAIN GEAR
	15	PRD40527	WARM WHEEL
	16	PRD40529A-01	CLUTCH GEAR ASSY
	17	PRD40534	CLUTCH DISK, X2
	18	PRD40535	SPRING HOLD PLATE
	19	PRD40537	PAD, X2
	20	PRD40538-01-03	COMPRESSION SPRING
	21	REE6000	E WASHER
	22	PRD40533	GEAR BRACKET
	23	SBSE2608Z	SCREW, X3
⚠	24	PQ40090A	MOTOR ASSY
	25	PRD40291A	WARM ASSY
	26	Q03093-838	WASHER, X2
	27	PUM30017	SLIT WASHER
	28	SPSP2604Z	SCREW, X2
	29	PQ40074	UPPER DOOR OPEMER
	30	PQ40075-1-5	LOWER DOOR OPENER
	31	PQ40076-2	HOLD LEVER
	32	REE2500	E RING
	33	PU51259-3	LEAF SWITCH
	34	PU55377-2	END SWITCH
	OR	PU55377-1-1	END SWITCH
	35	SPSP2010Z	SCREW
	36	SBSE2608Z	SCREW
	37	PU48973-3	STOPPER, X3
	38	PRD30123A	CASSETTE HOLDER ASSY
	39	PRD30122-01-01	SWITCH LEVER
	40	PRD40539	TORSION SPRING(L)
	41	PRD40540	TORSION SPRING(R)
	42	PUM30017	SLIT WASHER, X2
	43	PQ40106B-1	SIDE PLATE(R) ASSY
	43A	PUM30001-210	SPRING
	44	PQ40107B-2	SIDE PLATE(L) ASSY
	44A	PUM30001-210	SPRING
	45	PRD10052	BRACKET(R)
	46	PRD10052-02	BRACKET(L)
	47	SPSP2003Z	SCREW, X2
	48	PQ30032-1-3	REINFORCEMENT
	49	PGD40204	TEPHRON SHEET, X2
	50	PQ40108B-3	LOCK LEVER(R) ASSY
	50A	PUM30001-110	SPRING
	51	PQ40109B-3	LOCK LEVER(L) ASSY
	51A	PUM30001-110	SPRING
	52	PQ40081A	SWITCH LEVER(R) ASSY
	53	PQ40081B	SWITCH LEVER(L) ASSY
	54	PQ40083-1-5	LID OPENER
	55	PQ40084-1-2	TORSION SPRING
	56	PGZ00503	INSERT SWITCH
	57	PGZ00502	INSERT SWITCH
	58	SPSK1705M	SCREW, X2
	59	PQ40086	ROLLER, X4
	60	PQ40087-2	MINI ROLLER, X2
	61	PRD20034	ROOF PLATE
	62	SBSE2608Z	SCREW, X4
	63	PQ40299	WIRE CLAMP
	64	QXT329H-035	TUBE
	65	PRD40101	WIRE GUARD

5.2.12 Front panel assembly MC



4
B
B
B
B
5
26 DIRECTION LED BOARD ASSEMBLY
11
3
2
3
2
10
7
8
1
9
C
C
C
30 FRONT LED BOARD ASSEMBLY
A
A
2
3
6
11
7
19 OPERATION-1 BOARD ASSEMBLY
31 COUNTER BOARD ASSEMBLY
20 OPERATION-2 BOARD ASSEMBLY
11
B
A

```
#⚠ REF NO. PART NO.         PART NAME, DESCRIPTION
--- ------- --------------- ------------------------------
*****************************************************************

     ************************************************
     *     12. FRONT PANEL ASSEMBLY <MC>            *
     ************************************************
```

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
⚠	1	PGD10125K-12	FRONT PANEL ASSY,BR-S811E
⚠		PGD10125L-12	FRONT PANEL ASSY,BR-S611E
	2	PGD40860	COLLAR, X3
	3	PUM30017-5	SLIT WASHER, X3
	4	PGS20128G	SEARCH/JOG CONTROL ASSY
	5	DPSP3010Z	SCREW, X4
	6	SBSF2606Z	SCREW, X3
	7	SPSG2618Z	SCREW, X3
	8	SPSF2606Z	SCREW, X5
	9	PGD40422	SLIDE KNOB(B), X4
	10	Q03093-828	WASHER, X2
	11	SBSF2606Z	SCREW, X3

SECTION 6
ELECTRICAL PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

RESISTORS— All resistance values are in ohms (Ω), unless otherwise indicated.

k	: 1,000 (Kilo)
M	: 1,000,000 (Mega)
Chip R	: Chip Resistor
Chip VR	: Chip Variable Resistor
Comp. R	: Composition Resistor
CR	: Carbon Film Resistor
FR	: Fusible Resistor
MFR	: Metal Film Resistor
MPR	: Metal Plate Resistor
OMR	: Oxide Metal Film Resistor
PMR	: Precision Metal Film Resistor
UFR	: Unflammable Resistor
VR	: Variable Resistor (Potentiometer)
WR	: Wire Wound Resistor

CAPACITORS—All capacitance values are in μF, unless otherwise indicated.

pF	: μμF (Pico farad)
C Cap	: Caramic Capacitor
Chip Cap	: Chip Capacitor
Chip T Cap	: Chip Tantalum Capacitor
E Cap	: Electrolytic Capacitor
FM Cap	: Film Mica Capacitor
LL Cap	: Low Leak Current Electrolytic Capacitor
MM Cap	: Metalized Mylar Capacitor
MP Cap	: Metalized Paper Capacitor
MY Cap	: Mylar Capacitor
NP Cap	: Non-polar Capacitor
PC Cap	: Polycarbonate Capacitor
PP Cap	: Polypropylene Capacitor
PS Cap	: Polystyrol Capacitor
T Cap	: Tantalum Capacitor
TF Cap	: Thin Film Capacitor
TR Cap	: Trimmer Capacitor

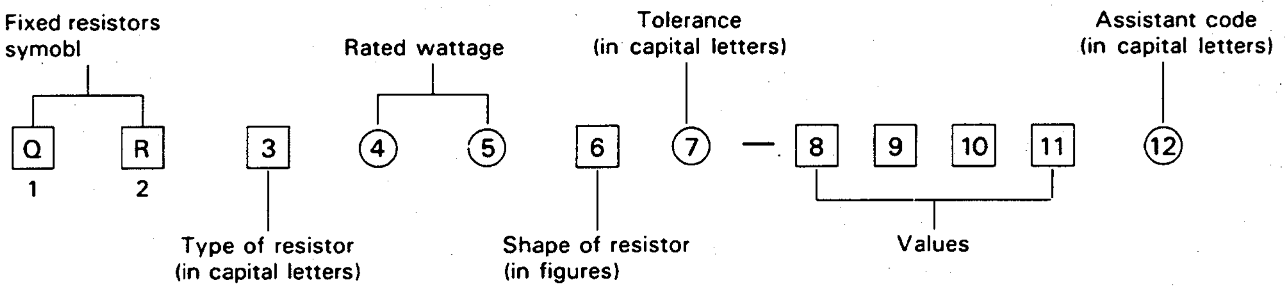
NOTES:

- [2 digits] indicates circuit board symbol number.
- "X " indicates quantity per set.

6.1 STANDARD PART NUMBER CODING

6.1.1 Fixed resistor coding

Fixed resistor part numbers are as follows.


Fixed resistors symobl
Rated wattage
Tolerance (in capital letters)
Assistant code (in capital letters)
Q
R
3
④
⑤
6
⑦
8
9
10
11
⑫
1
2
Type of resistor (in capital letters)
Shape of resistor (in figures)
Values

Type of resistor (third digit)

C	Composition resistors
D	Carbon film resistors
F	Unflammable resistors
G	Oxide metal film resistors
H	Fusible resistors
M	Metal plate resistors
S	Metal glazed resistors
V	Precision metal film resistors
W	Wire wound resistors
X	Metal film resistors
Z	Special resistors

Rated wattage (fourth and fifth digits)

A0	1/10 W
18	1/8 W
16	1/6 W
14	1/4 W
12	1/2 W
01	1 W
02	2 W
03	3 W
04	4 W
05	5 W
06	6 W
07	7 W
75	7.5 W
08	8 W
10	10 W
15	15 W
A6	16 W
20	20 W
30	30 W

Tolerance (seventh digit)

F	±1 %
G	±2 %
J	±5 %
K	±10 %
M	±20 %

Assistant code (twelfth digit)

A	Small type
B	Small type
S	Small type
Y	Lead taping
Z	Lead taping

Values (eighth — tenth or eleventh digits)

examples:

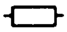
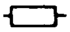
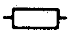
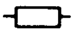
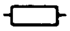
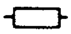
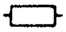
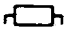
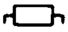
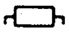
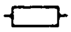
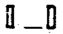
R47		0.47 Ω
4R7		4.7 Ω
470	47×10^0	47 Ω
471	47×10^1	470 Ω
472	47×10^2	4.7 kΩ
473	47×10^3	47 kΩ
474	47×10^4	470 kΩ
475	47×10^5	4.7 MΩ

QRV resistance shown by four digits:

4640	464×10^0	464 Ω
4641	464×10^1	4.64 kΩ
4642	464×10^2	46.4 kΩ

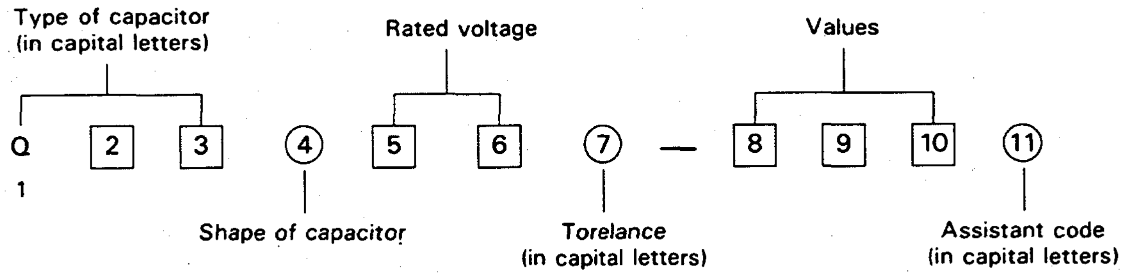
Shape of resistor (sixth digit)

Note: ■ indicates flame retardant resistor.

Shape of resistor \ Type of resistor	C	D	F	G	H	M	S	V	W	X
1										
2										
3										
4										
5									(L) type	
6										
7			Lug (B) type							
8			Lug (A) type				 Chip			
9			Lug (C) type							

6.1.2 Fixed capacitor coding

Fixed capacitor part numbers are as follows.


Type of capacitor
(in capital letters)
Rated voltage
Values
Q
1
2
3
4
5
6
7
—
8
9
10
11
Shape of capacitor
Torelance
(in capital letters)
Assistant code
(in capital letters)

Ceramic capacitors

Type of capacitor (first — third digits)		Shape of capacitor (fourth digit)				
Symbol	Characteristics	Mono-direction	Kink lead	Axial lead	Axial forming lead	Chip
QCC	Ceramic	1		4	5	
QCD	High capacitance					A
QCF	High capacitance	1,4	3			8,A
QCS	Temperature compensation	1	3	4	5	8,A
QCT	Temperature compensation	Special coding				8,A
QCV	Ceramic			1	3	
QCX	Ceramic			1	3	
QCY	High capacitance	1,4	3	6	7	8,A
QCZ	Special type	Special coding				
QCB	Ceramic			B	C	

Electrolytic capacitors

Type of capacitor (first-third digits)		Shape of capacitor (fourth digit)				
Symbol	Characteristics	Tubular	Mono-direction	Anti-stress	Forming	Snap-in
QEB	Low leakage		4	5	6	
QEC	Low leakage		4,8,A	9,B	6,C	
QEE	Tantalum (normal)		4	5	6	
	Tantalum (small)		8			
QEF	Chip tantalum	8 (chip type)				
QEG	Low impedance		4			
QEK	Miniature type		4	5	6	
QEL	Small type		4	5	6	7
QEM	Small type		4,A	5	6	
QEN	Non-polar	2	4	5	6	
QEP	Non-polar (small)		4,A	5,B	6,C	
QER	Miniature type		4	5	6	
QET	Small type	2	4,A	5,B	6,C	7
QEU	Small type		4	5	6	
QEV	Small type		4		6	7
QEW	Normal	2	4	5	6	7

Paper film capacitors

Type of capacitor (first – third digits)		Shape of capacitor (fourth digit)				
		Tubular	Normal		Flame retardant	
Symbol	Characteristics		Mono-direction	Kink lead	Mono-direction	Kink lead
QFA	Metalized polypropylene				7	
QFE	Metalized mylar				5	
QFF	Film mica		4			
QFG	Polypropylene film		4	8		
QFH	Metalized mylar	2	4	3	5,7	6
QFJ	Mylar (special)		4			
QFK	Metalized mylar (small)				5	
QFM	Mylar	2	4	3,7	5	6
QFN	Mylar (small)		4	3		
QFP	Polypropylene		4	3,8		
QFS	Polystyrole	2	4	3		
QFV	Thin film		4	8		
QFZ	Special type	Special coding				

Rated voltage (fifth and sixth digits)

Sixth digit / Fifth digit	A	B	C	D	E	F	G	H	J	K	V	W	X
0						3.15	4.0		6.3				
1	10		16	20	25		40	50	63	80	35		
2	100	125	160	200	250	315	400	500	630		350	450	600
3	1000	1250		2000				5000					

Tolerance (seventh digit)

A	$^{+100}_{-10}$ %	M	±20 %
F	±1 %	N	±30 %
G	±2 %	P	$^{+100}_{-0}$ %
H	$^{+50}_{-10}$ %	R	$^{+30}_{-10}$ %
J	±5 %	X	$^{+40}_{-20}$ %
K	±10 %	Z	$^{+80}_{-20}$ %

Values (eighth – tenth digits)

Example : Values are in picofarads

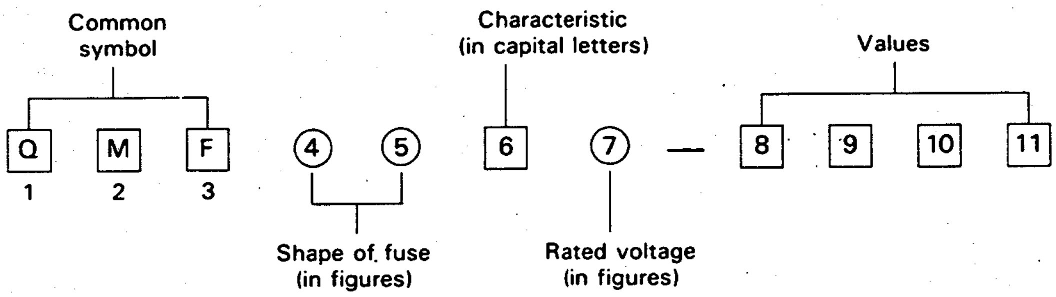
101 ....10×10^1 pF.............. 100 pF
102 ....10×10^2 pF.............. 1,000 pF (0.001 μF)
103 ....10×10^3 pF.............. 10,000 pF (0.01 μF)
104 ....10×10^4 pF.............. 100,000 pF (0.1 μF)
105 ....10×10^5 pF.............. 1 μF
5R0 .... 5.0 pF

Assistant code (eleventh digit)

G Small size
Z Lead taping
Y Lead taping

6.1.3 Fuse coding

Standard fuse part numbers are as follows.


Common symbol
Characteristic (in capital letters)
Values
Q
M
F
④
⑤
6
⑦
—
8
9
10
11
1
2
3
Shape of fuse (in figures)
Rated voltage (in figures)

Shape of fuse
(fourth and fifth digits)

51	ϕ5.2 × 20 mm
60	ϕ6.4 × 30 mm
61	ϕ6.35 × 31.8 mm
63	ϕ6.4 × 30 mm with lead wires
66	ϕ6.35 × 31.8 mm with lead wires
00	Special type

Rated voltage
(seventh digit)

1	AC125 V
2	AC250 V
3	0.1 – 1 A : AC250 V 1.25 – 6.3 A : AC125 V

Values
(eighth-tenth or eleventh digits)
example:

R63	.... 0.63 A
1R0	.... 1.0 A
2R5	.... 2.5 A
100	.... 10 A
R315	.... 0.315 A
1R25	.... 1.25 A

Characteristics (sixth digit)

Symbol	Fusing Current	Fusing Time	Remarks
A	210 %	Within 2 min.	Anti-rush type (for Europe)
	275 %	0.6 – 10 sec.	
	400 %	0.15 – 3 sec.	
	1000 %	0.02 – 0.3 sec.	
B	210 %	Within 30 min.	Regular fusible type (for SEMKO, Europe)
	275 %	0.05 – 2 sec.	
	400 %	0.01 – 0.3 sec.	
C	135 %	Within 1 hr.	Regular fusible type (for UL, Japan)
	200 %	Within 2 min.	
E	210 %	Within 2 min.	Anti-rush type (for Europe)
	275 %	0.6 – 10 sec.	
	400 %	0.15 – 3 sec.	
	1000 %	0.02 – 0.3 sec.	
J	135 %	Within 1 hr.	Anti-rush type
	200 %	Within 2 min.	
M	135 %	Within 1 hr.	Regular fusible type (for UL)
	200 %	Within 2 min.	
R	160 %	Within 1 hr.	Regular fusible type
	200 %	Within 2 min.	
S	160 %	Within 1 hr.	Anti-rush type
	200 %	Within 2 min.	
	700 % – 2000 %	Within 0.01 sec.	
U	135 %	Within 1 hr.	Anti-rush type (for UL)
	200 %	Within 2 min.	
	800 % – 2000 %	Within 0.01 sec.	

6.2 ELECTRICAL PARTS LIST BY ASSEMBLY

6.2.1 REC Y BOARD ASSEMBLY <01>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK20014A-02	REC Y BOARD ASSY
	IC1	TA7348P	IC
⚠	IC2	AN6306S	IC
⚠	IC3	AN6306S	IC
	IC4	TA7348P	IC
	IC5	TA7347P	IC
	IC6	VC2501	IC
	IC7	TA7347P	IC
	IC8	BA401	IC
	IC9	MN4069UBS	IC
	IC10	VC2504	IC
	IC11	AN608P	IC
	IC12	VC2501	IC
	IC13	HMC-229	IC
	IC14	VC2031DP	IC
	IC15	MN4069UBS	IC
	Q1	DTC144EF	TRANSISTOR
	Q2	2SC2647C	TRANSISTOR
	Q3	2SC2647C	TRANSISTOR
	Q4	2SC2647C	TRANSISTOR
	Q5	2SC2647C	TRANSISTOR
	Q6	2SC2647C	TRANSISTOR
	Q7	2SC2647C	TRANSISTOR
	Q8	2SB641Q	TRANSISTOR
	Q9	DTC144EF	TRANSISTOR
	Q10	2SC2647C	TRANSISTOR
	Q11	2SC2647C	TRANSISTOR
	Q12	DTC144EF	TRANSISTOR
	Q13	2SC2647C	TRANSISTOR
	Q14	2SC2647C	TRANSISTOR
	Q15	2SC2647C	TRANSISTOR
	Q16	2SC2647C	TRANSISTOR
	Q17	2SC2647C	TRANSISTOR
	Q18	2SC2647C	TRANSISTOR
	Q19	DTC144EF	TRANSISTOR
	Q20	2SC2647C	TRANSISTOR
	Q21	2SC2647C	TRANSISTOR
	Q22	2SC2647C	TRANSISTOR
	Q23	2SC2647C	TRANSISTOR
	Q24	2SC2647C	TRANSISTOR
	Q25	2SB641Q	TRANSISTOR
	Q26	2SB641Q	TRANSISTOR
	Q27	2SC2647C	TRANSISTOR
	Q28	2SC2647C	TRANSISTOR
	Q29	2SC2647C	TRANSISTOR
	Q30	2SB641Q	TRANSISTOR
	D1	RD3.3EB1	ZENER DIODE
	D2	1SS133	DIODE
	D3	1SS133	DIODE
	D4	1SS133	DIODE
	D5	1SS133	DIODE
	D6	RD3.3EB1	ZENER DIODE
	D7	1SS133	DIODE
	D8	1SS133	DIODE
	D9	1SS133	DIODE
	D10	1SS133	DIODE
	D11	1SS133	DIODE
	D12	1SS99	DIODE
	D13	1SS99	DIODE
	D14	1SS133	DIODE
	D15	1SS133	DIODE
	D16	1SS133	DIODE
	R2	QRD161J-750	RESISTOR
	R3	QRD161J-102	RESISTOR
	R4	QRD161J-561	RESISTOR
	R5	QRD161J-561	RESISTOR
	R6	QRD161J-681	RESISTOR
	R7	QRD161J-223	RESISTOR
	R8	QRD161J-223	RESISTOR
	R9	QRD161J-181	RESISTOR
	R10	QRD161J-332	RESISTOR
	R11	QRD161J-181	RESISTOR
	R12	QRD161J-472	RESISTOR
	R13	QRD161J-393	RESISTOR
	R14	QRD161J-183	RESISTOR
	R15	QRD161J-224	RESISTOR
	R16	QRD161J-331	RESISTOR
	R17	QRD161J-471	RESISTOR
	R18	QRD161J-103	RESISTOR
	R19	QRD161J-102	RESISTOR
	R20	QRD161J-271	RESISTOR
	R21	QRD161J-563	RESISTOR
	R22	QRD161J-152	RESISTOR
	R23	QRD161J-102	RESISTOR
	R24	QRD161J-103	RESISTOR
	R25	QRD161J-561	RESISTOR
	R27	QRD161J-102	RESISTOR
	R28	QRD161J-821	RESISTOR
	R29	QRD161J-102	RESISTOR
	R30	QRD161J-332	RESISTOR
	R31	QRD161J-103	RESISTOR
	R32	QVZ3513-103	V RESISTOR
	R33	QRV141F-1501AY	CMF RESISTOR
	R34	QRV141F-6811AY	CMF RESISTOR
	R35	QRV141F-2671AY	CMF RESISTOR
	R36	QVZ3513-682	V RESISTOR
	R37	QVZ3513-472	V RESISTOR
	R38	QRD161J-393	RESISTOR
	R39	QRD161J-470	RESISTOR
	R40	QRD161J-822	RESISTOR
	R41	QRV141F-1002AY	CMF RESISTER
	R42	QRD161J-103	RESISTOR
	R43	QRD161J-562	RESISTOR
	R44	QVZ3513-103	V RESISTOR
	R45	QRD161J-682	RESISTOR
	R46	QRD161J-103	RESISTOR
	R47	QVZ3513-223	V RESISTOR
	R48	QRD163J-331	RESISTOR
	R49	QRD161J-182	RESISTOR
	R50	QRD161J-102	RESISTOR
	R51	QRD161J-471	RESISTOR
	R52	QRD161J-103	RESISTOR
	R53	QVZ3513-103	V RESISTOR
	R54	QRD161J-332	RESISTOR
	R55	QRV141F-6341AY	CMF RESISTOR
	R56	QRV141F-1501AY	CMF RESISTOR
	R57	QRV141F-1201AY	CMF RESITER
	R58	QVZ3513-102	V RESISTOR
	R59	QVZ3513-472	V RESISTOR
	R60	QRD161J-393	RESISTOR
	R61	QRD161J-822	RESISTOR
	R62	QRD161J-470	RESISTOR
	R63	QRV141F-2671AY	CMF RESISTOR
	R64	QRD161J-562	RESISTOR
	R65	QVZ3513-103	V RESISTOR
	R66	QRD161J-682	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R67	QRD161J-103	RESISTOR
	R68	QRD161J-103	RESISTOR
	R69	QRD161J-223	RESISTOR
	R70	QRD161J-181	RESISTOR
	R71	QRD161J-223	RESISTOR
	R72	QRD161J-222	RESISTOR
	R73	QRD161J-222	RESISTOR
	R74	QRD161J-223	RESISTOR
	R75	QRD161J-223	RESISTOR
	R76	QRD161J-102	RESISTOR
	R77	QRD161J-100	RESISTOR
	R78	QRD161J-331	RESISTOR
	R79	QRD161J-181	RESISTOR
	R80	QRD161J-181	RESISTOR
	R81	QRD161J-182	RESISTOR
	R82	QRD161J-181	RESISTOR
	R83	QRD161J-181	RESISTOR
	R84	QRD161J-223	RESISTOR
	R85	QRD161J-102	RESISTOR
	R86	QRD161J-332	RESISTOR
	R87	QRD161J-102	RESISTOR
	R88	QRD161J-393	RESISTOR
	R89	QRD161J-153	RESISTOR
	R90	QRD161J-102	RESISTOR
	R91	QRD161J-911	RESISTOR
	R92	QRD161J-561	RESISTOR
	R93	QRD161J-511	RESISTOR
	R94	QVZ3513-102	V RESISTOR
	R95	QRD161J-223	RESISTOR
	R96	QRD161J-223	RESISTOR
	R97	QRD161J-332	RESISTOR
	R98	QRD161J-681	RESISTOR
	R99	QRD161J-101	RESISTOR
	R100	QRD161J-152	RESISTOR
	R101	QRD161J-122	RESISTOR
	R102	QRD161J-821	RESISTOR
	R103	QRD161J-102	RESISTOR
	R104	QRD161J-391	RESISTOR
	R105	QRD161J-152	RESISTOR
	R106	QRD161J-103	RESISTOR
	R107	QRD161J-103	RESISTOR
	R108	QRD161J-103	RESISTOR
	R109	QRD161J-103	RESISTOR
	R110	QRD161J-103	RESISTOR
	R111	QRD161J-103	RESISTOR
	R112	QRD167J-104	RESISTOR
	R113	QRD161J-104	RESISTOR
	R114	QRD161J-104	RESISTOR
	R115	QRD161J-104	RESISTOR
	R116	QRD161J-104	RESISTOR
	R117	QRD161J-104	RESISTOR
	R118	QVZ3513-682	V RESISTOR
	R119	QVZ3513-103	V RESISTOR
	R120	QVZ3513-682	V RESISTOR
	R121	QRD161J-392	RESISTOR
	R122	QRD161J-272	RESISTOR
	R123	QRD161J-472	RESISTOR
	R124	QRD161J-102	RESISTOR
	R125	QRD161J-391	RESISTOR
	R126	QRV141F-2401AY	CMF RESISTOR
	R127	QRD161J-391	RESISTOR
	R128	QRD163J-102	RESISTOR
	R129	QRD163J-391	RESISTOR
	R130	QRD163J-681	RESISTOR
	R131	QRD161J-391	RESISTOR
	R132	QRD161J-152	RESISTOR
	R134	QRD161J-222	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R135	QRD161J-102	RESISTOR
	R136	QRD161J-393	RESISTOR
	R137	QRD161J-223	RESISTOR
	R138	QRD161J-393	RESISTOR
	R139	QRD161J-273	RESISTOR
	R140	QRD161J-222	RESISTOR
	R141	QRD161J-821	RESISTOR
	R142	QRD161J-392	RESISTOR
	R143	QRD161J-102	RESISTOR
	R144	QRD161J-393	RESISTOR
	R145	QRD161J-273	RESISTOR
	R146	QRD161J-102	RESISTOR
	R147	QRD161J-102	RESISTOR
	R148	QRD161J-331	RESISTOR
	R149	QVZ3513-222	V RESISTOR
	R150	QRD161J-182	RESISTOR
	R151	QVZ3513-222	V RESISTOR
	R152	QRD161J-152	RESISTOR
	R153	QRD161J-472	RESISTOR
	R154	QRD161J-102	RESISTOR
	R155	QVZ3513-102	V RESISTOR
	R156	QRD161J-152	RESISTOR
	R157	QRD161J-561	RESISTOR
	R158	QRD161J-332	RESISTOR
	R159	QVZ3513-103	V RESISTOR
	R160	QRV141F-1001AY	CMF RESISTOR
	R161	QRD161J-104	RESISTOR
	R162	QRV141F-1001AY	CMF RESISTOR
	R163	QRV141F-4700AY	CMF RESISTOR
	R164	QRV141F-3301AY	CMF RESISTOR
	R165	QRD161J-561	RESISTOR
	R166	QRV141F-1501AY	CMF RESISTOR
	R167	QRV141F-3301AY	CMF RESISTOR
	R168	QRD161J-561	RESISTOR
	R169	QRD161J-103	RESISTOR
	R170	QRD161J-103	RESISTOR
	R171	QRD161J-103	RESISTOR
	R172	QRD161J-104	RESISTOR
	R173	QRD161J-104	RESISTOR
	R174	QRD161J-104	RESISTOR
	R175	QRD161J-104	RESISTOR
	R176	QRD161J-104	RESISTOR
	R177	QRD161J-103	RESISTOR
	R178	QRD161J-103	RESISTOR
	R179	QRD161J-103	RESISTOR
	R180	QRD161J-222	RESISTOR
	R181	QRD161J-0R0	RESISTOR
	R182	QRD161J-223	RESISTOR
	R183	QRD161J-103	RESISTOR
	R184	QRD161J-102	RESISTOR
	R185	QRD161J-222	RESISTOR
	R186	QRD163J-221	RESISTOR
	R187	QRD161J-102	RESISTOR
	R188	QRD161J-471	RESISTOR
	R189	QRD163J-221	RESISTOR
	R190	QRD163J-101	RESISTOR
	R191	QRD163J-102	RESISTOR
	R193	QRD161J-561	RESISTOR
	C1	QER41CM-476	E CAPACITOR
	C2	QER41CM-476	E CAPACITOR
	C3	QER41CM-476	E CAPACITOR
	C4	QER41CM-476	E CAPACITOR
	C5	QEK40JM-227	E CAPACITOR
	C6	QCF11HP-223	CAPACITOR
	C7	QER41CM-476	E CAPACITOR
	C8	QER41CM-106	E CAPACITOR
	C9	QEK40JM-227	E CAPACITOR

<01>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C10	QRD161J-0R0	RESISTOR
	C11	QCF11HP-103	CAPACITOR
	C12	QCS11HJ-151	CAPACITOR
	C13	QER41HM-224	E CAPACITOR
	C14	QER41HM-335	E CAPACITOR
	C15	QFN41HJ-563	M CAPACITOR
	C16	QCT25CH-390	CAPACITOR
	C17	QCF11HP-103	CAPACITOR
	C18	QFN41HK-223	M CAPACITOR
	C19	QCF11HP-223	CAPACITOR
	C20	QER40JM-107	E CAPACITOR
	C21	QCF11HP-223	CAPACITOR
	C22	QER41CM-476	E CAPACITOR
	C23	QCF11HP-223	CAPACITOR
	C24	QCS11HJ-560	CAPACITOR
	C25	QCS11HJ-560	CAPACITOR
	C26	QFN41HK-104	M CAPACITOR
	C27	QCF11HP-223	CAPACITOR
	C28	QEPA1HM-105	NP E CAPACITOR
	C29	QCS11HJ-5R0	CAPACITOR
	C30	QFP41HF-151	CAPACITOR
	C31	QCS11HJ-120	CAPACITOR
	C32	QCF11HP-103	CAPACITOR
	C35	QFN41HK-223	M CAPACITOR
	C36	QER41HM-224	E CAPACITOR
	C37	QCT25CH-680	CAPACITOR
	C38	QCF11HP-103	CAPACITOR
	C40	QCS11HJ-151	CAPACITOR
	C41	QCF11HP-223	CAPACITOR
	C42	QEK40JM-107	E CAPACITOR
	C43	QCF11HP-223	CAPACITOR
	C44	QEPA1VM-225	NP E CAPACITOR
	C45	QFP41HF-151	CAPACITOR
	C46	QCS11HJ-3R0	CAPACITOR
	C47	QCF11HP-103	CAPACITOR
	C48	QCF11HP-223	CAPACITOR
	C49	QER41CM-476	E CAPACITOR
	C50	QER40JM-227	E CAPACITOR
	C51	QER41CM-476	E CAPACITOR
	C52	QCF11HP-223	CAPACITOR
	C53	QER41AM-476	E CAPACITOR
	C54	QCF11HP-223	CAPACITOR
	C55	QER40JM-476	E CAPACITOR
	C56	QCF11HP-223	CAPACITOR
	C57	QER41CM-476	E CAPACITOR
	C58	QCS11HJ-220	CAPACITOR
	C59	QCS11HJ-560	CAPACITOR
	C60	QCF11HP-223	CAPACITOR
	C61	QER41CM-476	E CAPACITOR
	C62	QER41CM-476	E CAPACITOR
	C63	QCS11HJ-270	CAPACITOR
	C64	QCF11HP-223	CAPACITOR
	C65	QER41CM-476	E CAPACITOR
	C66	QER41CM-476	E CAPACITOR
	C67	QER41CM-476	E CAPACITOR
	C68	QCF11HP-223	CAPACITOR
	C69	QER41CM-476	E CAPACITOR
	C70	QCF11HP-223	CAPACITOR
	C71	QER41CM-226	E CAPACITOR
	C72	QER41CM-476	E CAPACITOR
	C73	QCS11HJ-680	CAPACITOR
	C74	QER41CM-476	E CAPACITOR
	C75	QCF11HP-223	CAPACITOR
	C76	QER41CM-476	E CAPACITOR
	C77	QER41CM-476	E CAPACITOR
	C78	QER41CM-476	E CAPACITOR
	C79	QER41CM-106	E CAPACITOR
	C80	QER41CM-106	E CAPACITOR
	C81	QER41CM-476	E CAPACITOR
	C82	QCS11HJ-471	CAPACITOR
	C83	QER41CM-476	E CAPACITOR
	C84	QCS11HJ-9R0	CAPACITOR
	C85	QCF11HP-223	CAPACITOR
	C86	QER41CM-476	E CAPACITOR
	C87	QER41CM-106	E CAPACITOR
	C88	QCF11HP-223	CAPACITOR
	C89	QER41CM-476	E CAPACITOR
	C90	QCF11HP-223	CAPACITOR
	C91	QER41CM-476	E CAPACITOR
	C92	QER41HM-225	E CAPACITOR
	C93	QER41CM-476	E CAPACITOR
	C94	QER41CM-476	E CAPACITOR
	C95	QCF11HP-223	CAPACITOR
	C96	QER41AM-227	E CAPACITOR
	C97	QCS11HJ-270	CAPACITOR
	C98	QER41CM-476	E CAPACITOR
	C99	QCF11HP-223	CAPACITOR
	C100	QER41CM-476	E CAPACITOR
	C103	QER41CM-476	E CAPACITOR
	C104	QER41CM-476	E CAPACITOR
	C105	QER41CM-476	E CAPACITOR
	C107	QFN41HK-223	M CAPACITOR
	C108	QFN41HK-223	M CAPACITOR
	C109	QER41CM-476	E CAPACITOR
	C110	QCS11HJ-3R0	CAPACITOR
	C111	QEK41CM-227	E CAPACITOR
	C112	QCF11HP-223	CAPACITOR
	C113	QEPA0JM-476	E CAPACITOR
	C114	QCF11HP-223	CAPACITOR
	C115	QER41CM-476	E CAPACITOR
	C116	QCS11HJ-5R0	CAPACITOR
	C117	QER41CM-476	E CAPACITOR
	C118	QFP41HF-271	CAPACITOR
	C119	QFP41HF-820	CAPACITOR
	C120	QFP41HF-271	CAPACITOR
	C121	QFP41HF-221	CAPACITOR
	C122	QFP41HF-271	CAPACITOR
	C123	QER41HM-475	E CAPACITOR
	C124	QER41HM-475	E CAPACITOR
	C125	QER40JM-227	E CAPACITOR
	C126	QER41CM-106	E CAPACITOR
	C127	QER40JM-476	E CAPACITOR
	C128	QCF11HP-223	CAPACITOR
	C129	QER41CM-106	E CAPACITOR
	C130	QCF11HP-223	CAPACITOR
	C131	QCF11HP-223	CAPACITOR
	C132	QCF11HP-103	CAPACITOR
	C133	QCS11HJ-330	CAPACITOR
	C134	QCS11HJ-3R0	CAPACITOR
	C135	QCS11HJ-331	CAPACITOR
	C136	QCS11HJ-221	CAPACITOR
	C137	QCS11HJ-221	CAPACITOR
	C138	QCS11HJ-560	CAPACITOR
	C139	QCS11HJ-1R0	CAPACITOR
	C144	QFN41HK-223	M CAPACITOR
	L1	PU48530-221J	COIL
	L2	PU48530-221J	COIL
	L3	PU48530-101J	COIL
	L6	PU48530-221J	COIL
	L7	PU48530-221J	COIL
	L8	PU48530-221J	COIL
	L9	PU48530-221J	COIL
	L10	PU48530-100J	COIL

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	L11	PU48530-221J	COIL
	L12	PU48530-221J	COIL
	L13	PU48530-221J	COIL
	L14	PU48530-470J	COIL
	L15	PU48530-220J	COIL
	L16	PU48530-221J	COIL
	L17	PU48530-221J	COIL
	L18	PU48530-221J	COIL
	L19	PU48530-221J	COIL
	L21	PU48530-221J	COIL
	L22	PU48530-101J	COIL
	L23	PU48530-221J	COIL
	L24	PU48530-221J	COIL
	L25	PU48530-8R2J	COIL
	L26	PU48530-181J	COIL
	L27	PU48530-101J	COIL
	LPF1	PU58021-3	LOW PASS FILTER
	LPF2	PU60737	LOW PASS FILTER
	DL1	PGZ00131-002	DELAY LINE
⚠	TH1	ERT-D2FHK-202S	THERMISTOR
	HD1	PGZ00606-02	PWB HOLDER, X2
	SPC1	PGZ00605-02	PWB SPACER, X2
	TP1	PU54983	TEST PIN, X13
	CN1	PGZ00421-100	MALE CONNECTOR

-REC Y SUB1 BOARD ASSY-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK40020A	REC Y SUB1 ASSY
	R192	QRD167J-102	RESISTOR
	C39	QFN41HK-103	M CAPACITOR
	C143	QCS11HJ-181	CAPACITOR
	L29	PU48530-331J	COIL
	PJ1	PGZ00190-003	CONNECTOR

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6.2.2 PB Y BOARD ASSEMBLY <02>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK20017A-02	PB Y BOARD ASSY
	IC1	AN3322S	IC
	IC2	TA7347P	IC
	IC3	AN607P	IC
	IC4	AN6393	IC
	IC5	AN3322S	IC
	IC6	TA7347P	IC
	IC7	TA7347P	IC
	IC8	VC2503	IC
	IC9	VC2074	IC
	IC10	TC4538BP	IC
	IC11	AN3212S	IC
	IC12	TA7347P	IC
	IC13	AN608P	IC
	Q1	2SB641Q	TRANSISTOR
	Q2	2SB641Q	TRANSISTOR
	Q3	2SC2647C	TRANSISTOR
	Q4	2SC2647C	TRANSISTOR
	Q5	2SC2647C	TRANSISTOR
	Q6	2SB641Q	TRANSISTOR
	Q7	2SB641Q	TRANSISTOR
	Q8	DTC144EF	TRANSISTOR
	Q9	2SC2647C	TRANSISTOR
	Q10	2SC2647C	TRANSISTOR
	Q11	QRD161J-102	RESISTOR
	Q12	DTC114EF	TRANSISTOR
	Q13	DTA144EF	TRANSISTOR
	Q14	DTA144EF	TRANSISTOR
	Q15	2SB641Q	TRANSISTOR
	Q16	2SC2647C	TRANSISTOR
	Q17	2SB641Q	TRANSISTOR
	Q18	DTC144EF	TRANSISTOR
	Q19	DTC144EF	TRANSISTOR
	Q20	DTC144EF	TRANSISTOR
	Q21	2SC2647C	TRANSISTOR
	Q22	2SC2647C	TRANSISTOR
	Q23	DTC144EF	TRANSISTOR
	Q24	DTC144EF	TRANSISTOR
	Q25	2SB641Q	TRANSISTOR
	Q26	2SB641Q	TRANSISTOR
	Q27	2SC2647C	TRANSISTOR
	Q28	2SC2647C	TRANSISTOR
	Q29	2SC2647C	TRANSISTOR
	Q30	2SB641Q	TRANSISTOR
	Q31	2SC2647C	TRANSISTOR
	Q32	2SC2647C	TRANSISTOR
	Q33	2SC2647C	TRANSISTOR
	Q34	2SC2647C	TRANSISTOR
	Q35	2SC2647C	TRANSISTOR
	Q36	2SC2647C	TRANSISTOR
	D1	1SS133	DIODE
	D3	RD6.2EB1	ZENER DIODE
	D4	1SS133	DIODE
	D5	1SS133	DIODE
	D6	1SS133	DIODE
	D7	1SS133	DIODE
	D8	1SS133	DIODE
	D9	1SS133	DIODE
	D10	1SS133	DIODE
	D11	1SS133	DIODE
	D12	1SS133	DIODE
	D13	1SS133	DIODE
	D14	1SS133	DIODE
	D15	RD6.8EB3	ZENER DIODE
	D16	1SS133	DIODE
	D17	1SS133	DIODE
	D18	1SS133	DIODE
	D19	1SS133	DIODE
	D20	1SS133	DIODE
	D21	1SS133	DIODE
	D22	1SS133	DIODE
	D23	1SS133	DIODE
	D25	1SS133	DIODE
	D26	1SS133	DIODE
	D27	1SS133	DIODE
	D28	OA91	DIODE
	D29	1SS133	DIODE
	D30	1SS133	DIODE
	D31	1SS133	DIODE
	R1	QRD161J-152	RESISTOR

<02>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R2	QRD161J-152	RESISTOR
	R3	QVZ3513-473	V RESISTOR
	R4	QRD161J-562	RESISTOR
	R5	QRD161J-122	RESISTOR
	R6	QRD161J-122	RESISTOR
	R7	QRD161J-272	RESISTOR
	R8	QRD163J-222	RESISTOR
	R9	QRD161J-103	RESISTOR
	R10	QRD161J-103	RESISTOR
	R11	QRD161J-103	RESISTOR
	R12	QRD161J-335	RESISTOR
	R13	QRD161J-475	RESISTOR
	R15	QRD161J-152	RESISTOR
	R16	QRV143F-4320	RESISTOR
	R17	QRV141F-1501AY	CMF RESISTOR
	R18	QRD161J-102	RESISTOR
	R19	QRD161J-102	RESISTOR
	R20	QRD161J-102	RESISTOR
	R21	QRD161J-181	RESISTOR
	R22	QRD161J-333	RESISTOR
	R23	QRD161J-102	RESISTOR
	R24	QRD163J-152	RESISTOR
	R25	QRD161J-223	RESISTOR
	R26	QRD161J-561	RESISTOR
	R27	QRD161J-472	RESISTOR
	R28	QRD161J-101	RESISTOR
	R29	QRD161J-392	RESISTOR
	R30	QRD161J-561	RESISTOR
	R31	QRD167J-561	RESISTOR
	R32	QRD161J-562	RESISTOR
	R33	QRD163J-154	RESISTOR
	R34	QRD161J-103	RESISTOR
	R35	QRD161J-561	RESISTOR
	R36	QRD161J-223	RESISTOR
	R37	QRD161J-223	RESISTOR
	R38	QRD161J-101	RESISTOR
	R39	QRD161J-152	RESISTOR
	R40	QRD161J-152	RESISTOR
	R41	QVZ3513-473	V RESISTOR
	R42	QRD161J-562	RESISTOR
	R43	QRD161J-122	RESISTOR
	R44	QRD161J-821	RESISTOR
	R45	QRD161J-272	RESISTOR
	R46	QRD163J-475	RESISTOR
	R47	QRD163J-475	RESISTOR
	R48	QRD163J-152	RESISTOR
	R49	QRV141F-3920AY	CMF RESISTOR
	R50	QRV141F-1501AY	CMF RESISTOR
	R51	QRD161J-102	RESISTOR
	R52	QRD161J-560	RESISTOR
	R53	QRD161J-333	RESISTOR
	R54	QRD161J-103	RESISTOR
	R55	QRD161J-122	RESISTOR
	R56	QRD161J-681	RESISTOR
	R57	QRD161J-122	RESISTOR
	R58	QRD161J-122	RESISTOR
	R59	QRD161J-122	RESISTOR
	R60	QRD161J-472	RESISTOR
	R61	QRD161J-181	RESISTOR
	R62	QRD161J-333	RESISTOR
	R63	QRD161J-102	RESISTOR
	R64	QRD161J-182	RESISTOR
	R65	QRD161J-471	RESISTOR
	R66	QRD161J-223	RESISTOR
	R67	QRD161J-472	RESISTOR
	R68	QRD161J-0R0	RESISTOR
	R69	QRD161J-102	RESISTOR
	R70	QRD161J-0R0	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R71	QRD161J-103	RESISTOR
	R72	QRD161J-103	RESISTOR
	R73	QRD161J-103	RESISTOR
	R74	QRD161J-103	RESISTOR
	R75	QRD161J-103	RESISTOR
	R76	QRD161J-103	RESISTOR
	R77	QRD161J-103	RESISTOR
	R78	QRD161J-103	RESISTOR
	R79	QRD161J-103	RESISTOR
	R80	QRD161J-103	RESISTOR
	R81	QRD161J-103	RESISTOR
	R82	QRD161J-102	RESISTOR
	R83	QRD161J-562	RESISTOR
	R84	QVZ3513-104	V RESISTOR
	R85	QRD161J-333	RESISTOR
	R86	QRD161J-333	RESISTOR
	R87	QRD161J-562	RESISTOR
	R88	QVZ3513-104	V RESISTOR
	R89	QRD161J-183	RESISTOR
	R90	QRD161J-333	RESISTOR
	R91	QRD161J-102	RESISTOR
	R92	QRD161J-331	RESISTOR
	R93	QRD161J-681	RESISTOR
	R94	QRD161J-681	RESISTOR
	R95	QRD161J-273	RESISTOR
	R96	QRD161J-223	RESISTOR
	R97	QRD167J-152	RESISTOR
	R98	QRD161J-272	RESISTOR
	R99	QRD161J-102	RESISTOR
	R100	QRD161J-102	RESISTOR
	R101	QRD161J-221	RESISTOR
	R102	QRD161J-681	RESISTOR
	R103	QRD161J-102	RESISTOR
	R104	QVZ3513-222	V RESISTOR
	R105	QRD161J-102	RESISTOR
	R106	QRD161J-102	RESISTOR
	R107	QRD161J-102	RESISTOR
	R108	QRD161J-221	RESISTOR
	R109	QRD161J-681	RESISTOR
	R110	QRD161J-102	RESISTOR
	R111	QVZ3513-222	V RESISTOR
	R112	QRD161J-102	RESISTOR
	R113	QRD161J-333	RESISTOR
	R114	QRD161J-221	RESISTOR
	R115	QRD161J-681	RESISTOR
	R116	QRD161J-101	RESISTOR
	R117	QRD161J-272	RESISTOR
	R119	QRD161J-153	RESISTOR
	R120	QRD161J-273	RESISTOR
	R123	QRD161J-472	RESISTOR
	R124	QRD161J-562	RESISTOR
	R125	QRD161J-4R7	RESISTOR
	R126	QRD161J-4R7	RESISTOR
	R127	QRD161J-471	RESISTOR
	R128	QRD161J-392	RESISTOR
	R129	QRD161J-682	RESISTOR
	R130	QRD161J-104	RESISTOR
	R131	QRD161J-103	RESISTOR
	R132	QRD161J-223	RESISTOR
	R133	QVZ3513-222	V RESISTOR
	R134	QRD161J-0R0	RESISTOR
	R135	QRD161J-222	RESISTOR
	R136	QRD161J-333	RESISTOR
	R137	QRD161J-223	RESISTOR
	R138	QRD161J-333	RESISTOR
	R139	QRD161J-273	RESISTOR
	R140	QRD161J-222	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R141	QRD161J-102	RESISTOR
	R142	QRD161J-750	RESISTOR
	R143	QRD161J-271	RESISTOR
	R144	QRD161J-392	RESISTOR
	R145	QRD161J-331	RESISTOR
	R146	QRD161J-102	RESISTOR
	R148	QRD161J-822	RESISTOR
	R150	QRD161J-332	RESISTOR
	R151	QRD161J-102	RESISTOR
	R152	QRD161J-272	RESISTOR
	R153	QRD161J-102	RESISTOR
	C1	QCF11HP-223	CAPACITOR
	C2	QER41CM-476	E CAPACITOR
	C3	QCF11HP-223	CAPACITOR
	C4	QER41CM-476	E CAPACITOR
	C5	QCF11HP-103	CAPACITOR
	C6	QER41HM-335	E CAPACITOR
	C7	QCF11HP-103	CAPACITOR
	C8	QFN41HK-103	M CAPACITOR
	C10	QFP41HF-391	CAPACITOR
	C11	QFP41HF-271	CAPACITOR
	C12	QCS11HJ-470	CAPACITOR
	C13	QCS11HJ-180	CAPACITOR
	C14	QCF11HP-103	CAPACITOR
	C15	QCS11HJ-270	CAPACITOR
	C16	QCS11HJ-270	CAPACITOR
	C17	QCF11HP-103	CAPACITOR
	C18	QFN41HK-103	M CAPACITOR
	C19	QFN41HK-103	M CAPACITOR
	C20	QCS11HJ-390	CAPACITOR
	C21	QFN41HK-103	M CAPACITOR
	C22	QCS11HJ-120	CAPACITOR
	C23	QFN41HK-103	M CAPACITOR
	C24	QFN41HK-103	M CAPACITOR
	C25	QCF11HP-223	CAPACITOR
	C26	QCF11HP-223	CAPACITOR
	C27	QEK40JM-227	E CAPACITOR
	C28	QCF11HP-223	CAPACITOR
	C29	QFN41HK-103	M CAPACITOR
	C30	QCS11HJ-101	CAPACITOR
	C31	QCS11HJ-101	CAPACITOR
	C32	QCF11HP-223	CAPACITOR
	C33	QER41CM-476	E CAPACITOR
	C34	QFN41HK-103	M CAPACITOR
	C35	QCS11HJ-121	CAPACITOR
	C36	QFN41HK-102	M CAPACITOR
	C37	QFN41HK-223	M CAPACITOR
	C38	QFN41HK-103	M CAPACITOR
	C39	QFN41HK-103	M CAPACITOR
	C40	QCF11HP-223	CAPACITOR
	C41	QER41CM-476	E CAPACITOR
	C42	QFN41HK-103	M CAPACITOR
	C43	QFN41HK-104	M CAPACITOR
	C44	QCS11HJ-560	CAPACITOR
	C45	QFN41HK-103	M CAPACITOR
	C46	QCF11HP-223	CAPACITOR
	C47	QCF11HP-223	CAPACITOR
	C48	QER41CM-476	E CAPACITOR
	C49	QFN41HK-103	M CAPACITOR
	C50	QCS11HJ-390	CAPACITOR
	C51	QCF11HP-103	CAPACITOR
	C52	QER41HM-335	E CAPACITOR
	C53	QCF11HP-103	CAPACITOR
	C54	QFN41HK-103	M CAPACITOR
	C55	QFP41HF-391	CAPACITOR
	C56	QFP41HF-181	CAPACITOR
	C57	QCS11HJ-470	CAPACITOR
	C58	QCF11HP-103	CAPACITOR
	C59	QCS11HJ-120	CAPACITOR
	C60	QCS11HJ-120	CAPACITOR
	C61	QCF11HP-103	CAPACITOR
	C62	QFN41HK-103	M CAPACITOR
	C63	QFN41HK-103	M CAPACITOR
	C64	QFN41HK-103	M CAPACITOR
	C65	QCS11HJ-120	CAPACITOR
	C66	QCS11HJ-390	CAPACITOR
	C67	QFN41HK-103	M CAPACITOR
	C68	QFN41HK-103	M CAPACITOR
	C69	QFN41HK-103	M CAPACITOR
	C70	QCF11HP-223	CAPACITOR
	C71	QEK40JM-227	E CAPACITOR
	C72	QCF11HP-223	CAPACITOR
	C73	QER41CM-476	E CAPACITOR
	C74	QFN41HK-103	M CAPACITOR
	C75	QCS11HJ-151	CAPACITOR
	C76	QFN41HK-102	M CAPACITOR
	C77	QFN41HK-103	M CAPACITOR
	C78	QCS11HJ-561	CAPACITOR
	C79	QFN41HK-103	M CAPACITOR
	C80	QCS11HJ-151	CAPACITOR
	C81	QFN41HK-102	M CAPACITOR
	C82	QFN41HJ-103	M CAPACITOR
	C83	QCS11HJ-271	CAPACITOR
	C84	QCF11HP-223	CAPACITOR
	C85	QER41CM-476	E CAPACITOR
	C86	QFN41HJ-103	M CAPACITOR
	C87	QFN41HJ-103	M CAPACITOR
	C88	QCS11HJ-220	CAPACITOR
	C89	QFN41HJ-223	M CAPACITOR
	C90	QCF11HP-223	CAPACITOR
	C91	QER41CM-476	E CAPACITOR
	C92	QER41HM-475	E CAPACITOR
	C94	QCF11HP-223	CAPACITOR
	C95	QER40JM-476	E CAPACITOR
	C100	QFN41HK-102	M CAPACITOR
	C101	QFN41HK-102	M CAPACITOR
	C102	QFN41HK-103	M CAPACITOR
	C103	QFN41HK-103	M CAPACITOR
	C104	QCF11HP-223	CAPACITOR
	C105	QER41CM-106	E CAPACITOR
	C106	QEK40JM-227	E CAPACITOR
	C107	QCF11HP-223	CAPACITOR
	C108	QER41CM-476	E CAPACITOR
	C109	QFN41HK-103	M CAPACITOR
	C110	QFN41HK-103	M CAPACITOR
	C111	QCS11HJ-470	CAPACITOR
	C112	QCF11HP-223	CAPACITOR
	C113	QFN41HK-103	M CAPACITOR
	C114	QCS11HJ-391	CAPACITOR
	C115	QER41HM-105	E CAPACITOR
	C116	QCF11HP-223	CAPACITOR
	C117	QFN41HK-103	M CAPACITOR
	C118	QCS11HJ-151	CAPACITOR
	C119	QFN41HK-102	M CAPACITOR
	C120	QER41CM-476	E CAPACITOR
	C121	QFN41HK-102	M CAPACITOR
	C122	QER41CM-476	E CAPACITOR
	C123	QER41CM-476	E CAPACITOR
	C124	QER41CM-476	E CAPACITOR
	C125	QCF11HP-223	CAPACITOR
	C126	QER41CM-476	E CAPACITOR
	C127	QER41CM-476	E CAPACITOR
	C128	QCF11HP-223	CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C129	QER41CM-107	E CAPACITOR
	C131	QER41CM-476	E CAPACITOR
	C132	QCF11HP-223	CAPACITOR
	C133	QEK41CM-107	E CAPACITOR
	C134	QER41CM-476	E CAPACITOR
	C135	QEK41CM-107	E CAPACITOR
	C136	QCF11HP-223	CAPACITOR
	C137	QER41HM-105	E CAPACITOR
	C138	QER41CM-106	E CAPACITOR
	C139	QEK41CM-106	E CAPACITOR
	C140	QER41CM-107	E CAPACITOR
	C141	QCF11HP-223	CAPACITOR
	C142	QER41CM-107	E CAPACITOR
	C143	QER41CM-107	E CAPACITOR
	C144	QER41CM-476	E CAPACITOR
	C145	QER41CM-107	E CAPACITOR
	C146	QER41EM-475	E CAPACITOR
	C147	QFN41HK-393	M CAPACITOR
	C148	QER41CM-476	E CAPACITOR
	C149	QCF11HP-103	CAPACITOR
	C152	QCS11HJ-470	CAPACITOR
	C153	QCS11HJ-150	CAPACITOR
	C154	QFN41HK-103	M CAPACITOR
	L1	PU48530-121J	COIL
	L2	PU48530-680J	COIL
	L3	PU48530-221J	COIL
	L4	PU48530-680J	COIL
	L5	PU48530-221J	COIL
	L6	PU48530-6R8K	COIL
	L7	PU48530-221J	COIL
	L8	PU48530-221J	COIL
	L9	PU48530-3R9J	COIL
	L10	PU48530-560J	COIL
	L11	PU48530-221J	COIL
	L12	PU48530-221J	COIL
	L13	PU48530-680J	COIL
	L14	PU48530-330J	COIL
	L15	PU48530-101J	COIL
	L16	PU48530-221J	COIL
	L17	PU48530-221J	COIL
	L18	PU48530-560J	COIL
	L19	PU48530-221J	COIL
	L20	PU48530-221J	COIL
	L22	PU48530-221J	COIL
	L23	PU48530-221J	COIL
	L24	PU48530-221J	COIL
	L25	PU48530-221J	COIL
	L26	PU48530-221J	COIL
	L27	PU48530-221J	COIL
	SW1	PU54440	SWITCH
	SW2	PU54440	SWITCH
	HD1	PGZ00606-02	PWB HOLDER, X4
	SPC1	PGZ00605-02	PWB SPACER, X4
	TP1	PU54983	TEST PIN, X6
	CN2	PGZ00421-64	MALE CONNECTOR

-PB Y SUB1 BOARD ASSY-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK40018A	PB Y SUB1 ASSY
	R154	QRD163J-333	RESISTOR
	C155	QCS11HJ-121	CAPACITOR
	CN1	PGZ01081-03	CONNECTOR

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6.2.3 PB COLOUR BOARD ASSEMBLY <03>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK20018A-02	PB COLOUR BOARD ASSY
	IC1	TC4069UBP	IC
	IC2	AN6360	IC
	IC3	AN608P	IC
	IC4	TA7348P	IC
	IC5	AN607P	IC
	IC6	TA7348P	IC
⚠	IC7	AN6371	IC
	IC8	TA7347P	IC
	IC9	AN6362	IC
	IC10	TC4538BP	IC
	IC11	BA401	IC
	IC12	BA401	IC
⚠	IC13	AN6371	IC
⚠	IC14	AN6371	IC
	IC15	TC4538BP	IC
	IC16	TC4538BP	IC
	IC17	TC4538BP	IC
	IC18	AN608P	IC
	IC19	VC2506-3	IC
	Q1	2SC2778C	TRANSISTOR
	Q2	2SC2778C	TRANSISTOR
	Q3	2SC2778C	TRANSISTOR
	Q12	2SC2778C	TRANSISTOR
	Q13	2SC2778C	TRANSISTOR
	Q15	2SC2778C	TRANSISTOR
	Q16	2SC2778C	TRANSISTOR
	Q17	2SC2778C	TRANSISTOR
	Q18	2SC2778C	TRANSISTOR
	Q19	2SK30A-0Y	TRANSISTOR
	Q20	2SC2778C	TRANSISTOR
	Q21	DTC144EK	TRANSISTOR
	Q22	2SC2778C	TRANSISTOR
	Q23	DTC144EK	TRANSISTOR
	Q24	2SK30A-0Y	TRANSISTOR
	Q25	2SC2778C	TRANSISTOR
	Q26	2SC2778C	TRANSISTOR
	Q27	DTC144EK	TRANSISTOR
	Q28	DTC144EK	TRANSISTOR
	Q29	DTC144EK	TRANSISTOR
	Q31	2SC2778C	TRANSISTOR
	Q32	DTC144EK	TRANSISTOR
	Q33	DTC114EK	TRANSISTOR
	Q34	DTC114EK	TRANSISTOR
	Q35	DTC114EK	TRANSISTOR
	Q36	DTA114EK	TRANSISTOR
	Q37	DTC144EK	TRANSISTOR
	Q38	DTC114EK	TRANSISTOR
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	D4	1SS133	DIODE
	D5	1SS133	DIODE
	D7	1SS133	DIODE
	D8	1SS133	DIODE
	D9	RD6.8EB3	ZENER DIODE

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	D10	1SS133	DIODE
	D11	1SS133	DIODE
	D12	1SS133	DIODE
	D13	1SS133	DIODE
	D14	1SS133	DIODE
	D15	1SS133	DIODE
	D16	1SS133	DIODE
	R1	QRSA08J-104YN	RESISTOR
	R2	QRSA08J-104YN	RESISTOR
	R3	QRSA08J-104YN	RESISTOR
	R4	QRSA08J-104YN	RESISTOR
	R5	QRSA08J-104YN	RESISTOR
	R6	QRSA08J-104YN	RESISTOR
	R7	QRSA08J-103YN	RESISTOR
	R8	QRSA08J-103YN	RESISTOR
	R9	QRSA08J-103YN	RESISTOR
	R10	QRSA08J-103YN	RESISTOR
	R11	QRSA08J-103YN	RESISTOR
	R12	QRSA08J-103YN	RESISTOR
	R13	QRSA08J-102YN	RESISTOR
	R14	QRSA08J-824YN	RESISTOR
	R15	QRSA08J-183YN	RESISTOR
	R16	QRSA08J-102YN	RESISTOR
	R17	QRSA08J-334YN	RESISTOR
	R18	QRSA08J-562YN	RESISTOR
	R19	QRSA08J-392YN	RESISTOR
	R20	QRSA08J-681YN	RESISTOR
	R21	QRSA08J-221YN	RESISTOR
	R22	QRSA08J-682YN	RESISTOR
	R23	QRSA08J-102YN	RESISTOR
	R24	QRSA08J-751YN	RESISTOR
	R25	QRSA08J-271YN	RESISTOR
	R26	QRSA08J-471YN	RESISTOR
	R30	QRSA08J-153YN	RESISTOR
	R31	QVZ3513-221	V RESISTOR
	R40	QRSA08J-152YN	RESISTOR
	R41	QRSA08J-101YN	RESISTOR
	R42	QRSA08J-152YN	RESISTOR
	R43	QRSA08J-181YN	RESISTOR
	R44	QRSA08J-333YN	RESISTOR
	R45	QRSA08J-333YN	RESISTOR
	R46	QRSA08J-223YN	RESISTOR
	R47	QRSA08J-223YN	RESISTOR
	R48	QRSA08J-222YN	RESISTOR
	R49	QRSA08J-391YN	RESISTOR
	R50	QRSA08J-181YN	RESISTOR
	R51	QRSA08J-221YN	RESISTOR
	R52	QRSA08J-392YN	RESISTOR
	R53	QRSA08J-181YN	RESISTOR
	R54	QRSA08J-333YN	RESISTOR
	R55	QRSA08J-333YN	RESISTOR
	R56	QRSA08J-681YN	RESISTOR
	R60	QRSA08J-223YN	RESISTOR
	R61	QRSA08J-223YN	RESISTOR
	R62	QRSA08J-223YN	RESISTOR
	R63	QRSA08J-223YN	RESISTOR
	R64	QRSA08J-472YN	RESISTOR
	R65	QRSA08J-103YN	RESISTOR
	R66	QRSA08J-393YN	RESISTOR
	R67	QRSA08J-0R0Y	RESISTOR
	R68	QRSA08J-222YN	RESISTOR
	R69	QRSA08J-152YN	RESISTOR
	R70	QRSA08J-391YN	RESISTOR
	R71	QRSA08J-473YN	RESISTOR
	R72	QRSA08J-154YN	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R73	QRSA08J-222YN	RESISTOR
	R74	QRSA08J-682YN	RESISTOR
	R75	QRSA08J-122YN	RESISTOR
	R76	QRSA08J-102YN	RESISTOR
	R77	QRSA08J-0R0Y	RESISTOR
	R78	QRSA08J-182YN	RESISTOR
	R79	QRSA08J-104YN	RESISTOR
	R80	QRSA08J-472YN	RESISTOR
	R81	QRSA08J-472YN	RESISTOR
	R82	QRSA08J-334YN	RESISTOR
	R83	QRSA08J-104YN	RESISTOR
	R84	QRSA08J-473YN	RESISTOR
	R85	QRSA08J-181YN	RESISTOR
	R86	QRSA08J-102YN	RESISTOR
	R87	QRSA08J-471YN	RESISTOR
	R88	QRSA08J-472YN	RESISTOR
	R89	QRSA08J-122YN	RESISTOR
	R90	QVZ3513-102	V RESISTOR
	R91	QRD121J-681	RESISTOR
	R92	QRSA08J-182YN	RESISTOR
	R93	QRSA08J-562YN	RESISTOR
	R94	QRSA08J-471YN	RESISTOR
	R95	QRSA08J-562YN	RESISTOR
	R96	QRSA08J-392YN	RESISTOR
	R97	QRSA08J-332YN	RESISTOR
	R98	QRSA08J-222YN	RESISTOR
	R99	QRSA08J-103YN	RESISTOR
	R100	QRSA08J-103YN	RESISTOR
	R101	QRSA08J-223YN	RESISTOR
	R102	QRSA08J-103YN	RESISTOR
	R103	QVZ3513-223	V RESISTOR
	R104	QRSA08J-472YN	RESISTOR
	R105	QVZ3513-103	V RESISTOR
	R106	QRSA08J-391YN	RESISTOR
	R107	QRSA08J-561YN	RESISTOR
	R108	QRSA08J-562YN	RESISTOR
	R109	QRSA08J-272YN	RESISTOR
	R110	QRSA08J-562YN	RESISTOR
	R111	QRSA08J-562YN	RESISTOR
	R112	QRSA08J-333YN	RESISTOR
	R113	QRSA08J-154YN	RESISTOR
	R114	QRSA08J-222YN	RESISTOR
	R115	QRSA08J-182YN	RESISTOR
	R116	QRSA08J-392YN	RESISTOR
	R117	QRSA08J-274YN	RESISTOR
	R118	QRSA08J-223YN	RESISTOR
	R119	QRSA08J-103YN	RESISTOR
	R120	QRSA08J-102YN	RESISTOR
	R121	QRSA08J-821YN	RESISTOR
	R122	QRSA08J-102YN	RESISTOR
	R123	QRSA08J-102YN	RESISTOR
	R124	QRSA08J-102YN	RESISTOR
	R125	QRSA08J-102YN	RESISTOR
	R126	QRSA08J-154YN	RESISTOR
	R127	QRSA08J-182YN	RESISTOR
	R128	QRSA08J-222YN	RESISTOR
	R129	QRSA08J-274YN	RESISTOR
	R130	QRSA08J-392YN	RESISTOR
	R131	QRSA08J-562YN	RESISTOR
	R132	QVZ3513-104	V RESISTOR
	R133	QRSA08J-562YN	RESISTOR
	R134	QVZ3513-104	V RESISTOR
	R135	QRSA08J-223YN	RESISTOR
	R136	QRSA08J-103YN	RESISTOR
	R137	QVZ3513-223	V RESISTOR
	R138	QRSA08J-392YN	RESISTOR
	R139	QVZ3513-682	V RESISTOR
	R140	QRSA08J-223YN	RESISTOR

<03>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R141	QRSA08J-103YN	RESISTOR
	R142	QVZ3513-223	V RESISTOR
	R143	QRSA08J-472YN	RESISTOR
	R144	QVZ3513-103	V RESISTOR
	R145	QRSA08J-223YN	RESISTOR
	R146	QRSA08J-102YN	RESISTOR
	R147	QRSA08J-272YN	RESISTOR
	R148	QVZ3513-222	V RESISTOR
	R149	QRSA08J-682YN	RESISTOR
	R154	QRSA08J-122YN	RESISTOR
	R155	QRSA08J-822YN	RESISTOR
	R156	QRSA08J-102YN	RESISTOR
	R157	QVZ3513-221	V RESISTOR
	R158	QVZ3513-334	V RESISTOR
	R159	QVZ3513-222	V RESISTOR
	R160	QRSA08J-102YN	RESISTOR
	R161	QRSA08J-334YN	RESISTOR
	R162	QRSA08J-332YN	RESISTOR
	R163	QRSA08J-103YN	RESISTOR
	R164	QRSA08J-103YN	RESISTOR
	R165	QRSA08J-101YN	RESISTOR
	R166	QVZ3513-471	V RESISTOR
	R167	QRSA08J-103YN	RESISTOR
	R168	QRSA08J-561YN	RESISTOR
	R169	QRSA08J-473YN	RESISTOR
	R170	QRSA08J-0R0Y	RESISTOR
	R171	QRSA08J-561YN	RESISTOR
	R172	QRSA08J-820YN	RESISTOR
	R173	QRSA08J-122YN	RESISTOR
	R174	QRD161J-680	RESISTOR
	C1	QCYA1HK-223	CAPACITOR
	C2	QER61CM-476	E CAPACITOR
	C3	QFN31HK-333	M CAPACITOR
	C4	QCYA1HK-223	CAPACITOR
	C5	QFN31HK-823	M CAPACITOR
	C6	QFN31HK-103	M CAPACITOR
	C7	QCYA1HK-223	CAPACITOR
	C8	QCS31HJ-560	CAPACITOR
	C9	QFN31HK-223	M CAPACITOR
	C10	QCS31HJ-5R0	CAPACITOR
	C11	QFN31HK-103	M CAPACITOR
	C12	QER61CM-476	E CAPACITOR
	C13	QCYA1HK-223	CAPACITOR
	C14	QFN31HK-103	M CAPACITOR
	C15	QCYA1HK-223	CAPACITOR
	C16	QER61CM-476	E CAPACITOR
	C19	QER61CM-476	E CAPACITOR
	C20	QER61HM-225GZ	E CAPACITOR
	C21	QER61HM-225GZ	E CAPACITOR
	C22	QER61CM-476	E CAPACITOR
	C23	QETA1AM-477	E CAPACITOR
	C24	QER60JM-107	E CAPACITOR
	C25	QFN31HK-103	M CAPACITOR
	C26	QER61CM-476	E CAPACITOR
	C27	QCYA1HK-223	CAPACITOR
	C28	QCYA1HK-223	CAPACITOR
	C29	QFN31HK-103	M CAPACITOR
	C30	QFN31HK-103	M CAPACITOR
	C31	QER61CM-476	E CAPACITOR
	C32	QCYA1HK-223	CAPACITOR
	C33	QFN31HK-103	M CAPACITOR
	C34	QFN31HK-103	M CAPACITOR
	C35	QCYA1HK-223	CAPACITOR
	C36	QFN31HK-103	M CAPACITOR
	C37	QCYA1HK-223	CAPACITOR
	C38	QFN31HK-103	M CAPACITOR
	C39	QFN31HK-103	M CAPACITOR
	C40	QFN31HK-223	M CAPACITOR
	C41	QFN31HK-103	M CAPACITOR
	C42	QER61CM-476	E CAPACITOR
	C43	QCYA1HK-223	CAPACITOR
	C44	QER41CM-106	E CAPACITOR
	C45	QCYA1HK-223	CAPACITOR
	C46	QER61CM-476	E CAPACITOR
	C47	QER61CM-476	E CAPACITOR
⚠	C48	QCYA1HK-223	CAPACITOR
	C49	QAT3001-016	TRIMMER CAPACITOR
⚠	C50	QCT05CH-120	CAPACITOR
	C51	QCS31HJ-121	CAPACITOR
	C52	QCS31HJ-121	CAPACITOR
	C53	QFN31HK-103	M CAPACITOR
	C54	QCYA1HK-223	CAPACITOR
	C55	QFN31HK-103	M CAPACITOR
	C56	QER61HM-105GZ	E CAPACITOR
	C57	QFN31HK-103	M CAPACITOR
	C58	QCS31HJ-150	CAPACITOR
	C59	QCS31HJ-101	CAPACITOR
	C60	QCYA1HK-223	CAPACITOR
	C61	QCS31HJ-220	CAPACITOR
	C62	QCYA1HK-223	CAPACITOR
	C63	QER61CM-476	E CAPACITOR
⚠	C64	QCS31HJ-6R0	CAPACITOR
	C65	QAT3001-016	TRIMMER CAPACITOR
	C66	QER61HM-475	E CAPACITOR
⚠	C67	QCS31HJ-4R0	CAPACITOR
	C68	QFN31HK-103	M CAPACITOR
	C69	QFN31HK-223	M CAPACITOR
	C70	QCYA1HK-223	CAPACITOR
	C71	QER61HM-475	E CAPACITOR
	C72	QFN41HK-104	M CAPACITOR
	C73	QFN31HK-223	M CAPACITOR
	C74	QFN31HK-223	M CAPACITOR
	C75	QER61CM-476	E CAPACITOR
	C76	QCYA1HK-223	CAPACITOR
	C78	QCS31HJ-221	CAPACITOR
	C79	QCT25CH-121	CAPACITOR
	C80	QCT25CH-181	CAPACITOR
	C81	QFN31HK-183	M CAPACITOR
	C82	QER61CM-106GZ	E CAPACITOR
	C83	QFN31HK-102	M CAPACITOR
	C84	QFN41HK-104	M CAPACITOR
	C85	QFN31HK-104	M CAPACITOR
	C86	QER61HM-105GZ	E CAPACITOR
	C87	QCYA1HK-223	CAPACITOR
	C88	QEK41CM-227	E CAPACITOR
	C89	QCYA1HK-223	CAPACITOR
	C90	QER61CM-476	E CAPACITOR
	C91	QER61CM-106GZ	E CAPACITOR
	C92	QCT25CH-101	CAPACITOR
	C93	QCT25CH-271	CAPACITOR
	C94	QCYA1HK-223	CAPACITOR
	C95	QER61CM-476	E CAPACITOR
	C96	QFN31HK-333	M CAPACITOR
	C97	QER61CM-106GZ	E CAPACITOR
	C98	QFN31HK-222	M CAPACITOR
	C99	QFN31HK-333	M CAPACITOR
	C100	QER61CM-106GZ	E CAPACITOR
	C101	QCYA1HK-223	CAPACITOR
	C102	QER61CM-476	E CAPACITOR
	C103	QER61HM-105GZ	E CAPACITOR
	C104	QFN31HK-103	M CAPACITOR
	C105	QFN31HK-103	M CAPACITOR
	C106	QCS31HJ-150	CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C107	QCS31HJ-101	CAPACITOR
	C108	QCYA1HK-223	CAPACITOR
	C109	QCYA1HK-223	CAPACITOR
	C110	QCYA1HK-223	CAPACITOR
	C111	QER61CM-476	E CAPACITOR
⚠	C112	QCS31HJ-6R0	CAPACITOR
	C113	QAT3001-016	TRIMMER CAPACITOR
⚠	C114	QCS31HJ-4R0	CAPACITOR
	C115	QFN31HK-103	M CAPACITOR
	C116	QFN31HK-103	M CAPACITOR
	C117	QER61CM-106GZ	E CAPACITOR
	C118	QFN31HK-103	M CAPACITOR
	C119	QCT25CH-101	CAPACITOR
	C120	QCYA1HK-223	CAPACITOR
	C121	QCT25CH-101	CAPACITOR
	C122	QER61HM-105GZ	E CAPACITOR
	C123	QFN31HK-103	M CAPACITOR
	C124	QFN31HK-103	M CAPACITOR
	C125	QCS31HJ-150	CAPACITOR
	C126	QCS31HJ-101	CAPACITOR
	C127	QCYA1HK-223	CAPACITOR
	C128	QFN31HK-103	M CAPACITOR
	C129	QCYA1HK-223	CAPACITOR
	C130	QER61CM-476	E CAPACITOR
	C131	QCS31HJ-6R0	CAPACITOR
	C132	QCS31HJ-4R0	CAPACITOR
	C133	QFN31HK-103	M CAPACITOR
	C134	QFN31HK-103	M CAPACITOR
	C135	QER61CM-476	E CAPACITOR
	C136	QFN31HK-333	M CAPACITOR
	C137	QFN31HK-473	M CAPACITOR
	C138	QCYA1HK-223	CAPACITOR
	C139	QER61CM-476	E CAPACITOR
	C140	QCT25CH-101	CAPACITOR
	C141	QCT25CH-271	CAPACITOR
	C142	QCYA1HK-223	CAPACITOR
	C143	QER61CM-476	E CAPACITOR
	C144	QCT25CH-151	CAPACITOR
	C145	QCT25CH-271	CAPACITOR
	C146	QCYA1HK-223	CAPACITOR
	C147	QER61CM-476	E CAPACITOR
	C148	QFN31HK-223	M CAPACITOR
	C149	QER61CM-476	E CAPACITOR
	C150	QCYA1HK-223	CAPACITOR
	C151	QFN31HK-103	M CAPACITOR
	C153	QCYA1HK-223	CAPACITOR
	C154	QER61CM-476	E CAPACITOR
	C155	QER61CM-476	E CAPACITOR
	C156	QER41HM-105	E CAPACITOR
	C157	QCS31HJ-220	CAPACITOR
	C158	QFN41HK-563	M CAPACITOR
	C159	QFN31HK-223	M CAPACITOR
	C160	QCYA1HK-223	CAPACITOR
	C161	QCS11HJ-4R0	CAPACITOR
	C162	QEE41VM-105	E CAPACITOR
	C163	QCTA1CH-331	CAPACITOR
	L1	PU48530-221J	COIL
	L2	PU48530-221J	COIL
	L3	PU48530-101J	COIL
	L4	PU48530-100J	COIL
	L5	PU48530-221J	COIL
	L6	PU48530-221J	COIL
	L7	PU48530-221J	COIL
⚠	L8	PU52108-101K	POSITIVE THERMISTOR
	L9	PU48530-221J	COIL
	L10	PU48530-820J	COIL
	L11	PU48530-560J	COIL
	L12	PU48530-221J	COIL
	L13	PU48530-221J	COIL
	L14	PU48530-221J	COIL
	L15	PU48530-221J	COIL
	L16	PU48530-221J	COIL
	L17	PU48530-560J	COIL
	L18	PU48530-560J	COIL
	L19	PU48530-221J	COIL
	L20	PU48530-560J	COIL
	L21	PU48530-560J	COIL
	L22	PU48530-221J	COIL
	L23	PU48530-221J	COIL
	L24	PU48530-221J	COIL
	L25	PU48530-221J	COIL
	L26	PU48530-470J	COIL
	L27	PGZ00121-102	COIL
	L28	PGZ00121-102	COIL
	L29	PU48530-221J	COIL
	L30	PU48530-820J	COIL
	L31	PU30284-28R	COIL
	BPF1	PGZ00191	BAND PASS FILTER
	BPF2	PU54410-2	BAND PASS FILTER
	DL1	PGZ00131-015	DELAY LINE
	DL2	PGZ00131-003	DELAY LINE
⚠	X1	PU31449-2	CRYSTAL RESONATOR
⚠	X2	PU46040	CRYSTAL RESONATOR
⚠	X3	PU31449-2	CRYSTAL RESONATOR
⚠	K1	PGZ00354	FERRITE BEADS, X2
⚠	TH1	ERT-D2FHL333S	THERMISTOR
⚠	TH2	ERT-D2FHL333S	THERMISTOR
⚠	PTH1	PU52108-101K	POSITIVE THERMISTOR
⚠	PTH2	PU52108-101K	POSITIVE THERMISTOR
	HD1	PGZ00606-02	PWB HOLDER, X4
	SLD1	PGD40841-01-01	SHIELD CASE
	SLD2	PGD40842-01-01	SHIELD CAP
	SPC1	PGZ00605-02	PWB SPACER, X4
	SPC2	PRS30013-03	INSULATOR
	TP1	PU54983	TEST PIN, X29
	CN1	PGZ00421-100	MALE CONNECTOR
		-REC AFC MODULE-	
	PWBA	PGE30184A	AFC BOARD ASSY
	IC1	AN6362S	IC
	R1	QRSA08J-473YN	RESISTOR
	R3	QRSA08J-122YN	RESISTOR
	R4	QRSA08J-681YN	RESISTOR
	R6	QRSA08J-562YN	RESISTOR
	R9	QRSA08J-123YN	RESISTOR
	R10	QRSA08J-471YN	RESISTOR
	R11	QRSA08J-562YN	RESISTOR
	R12	QRSA08J-222YN	RESISTOR
	C1	QCTA1CH-271	CAPACITOR
	C2	QCTA1CH-681	CAPACITOR
	C3	QCTA1CH-121	CAPACITOR
	C4	QCTA1CH-181	CAPACITOR
	C5	QFN41HJ-273	M CAPACITOR
	C6	NEA11CM-106RZ	E CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C7	QCYA1HK-821	CAPACITOR
	C8	QER41CM-476	E CAPACITOR
	C9	QCYA1HJ-223	CAPACITOR
	C10	QFN41HK-104	M CAPACITOR
	C11	QCYA1HK-102	CAPACITOR
	C12	QCFA1EZ-104	CAPACITOR
	C13	QEF81AM-105	TANTAL CAPACITOR
	C15	QCYA1HK-223	CAPACITOR
	C16	QCYA1HK-223	CAPACITOR
	C17	QER41CM-476	E CAPACITOR
	L1	PU48530-680J	COIL
	L2	PU48530-101J	COIL
	CN1	PGZ01081-05	MICRO HEADER, X2

-PB COLOUR SUB1 BOARD ASSY-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK30023A	PB C SUB1 ASSY
	Q30	2SC2647C	TRANSISTOR
	Q40	DTC114EF	TRANSISTOR
	R150	QRD167J-223	RESISTOR
	R151	QRD167J-392	RESISTOR
	R152	QRD167J-561	RESISTOR
	R153	QRD167J-101	RESISTOR
	C152	QFN41HK-223	M CAPACITOR
	C164	QCS11HJ-150	CAPACITOR
⚠	CF1	PGZ01247	CERAMIC FILTER
	CN1	PGZ00835-01	CONNECTOR, X3

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6.2.4 Y/C SEPALATOR BOARD ASSEMBLY <04>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK20013A-01	Y/C SEPARATOR BOARD ASSY
	IC1	HMC-229	IC
⚠	IC2	CXL1004P	IC
⚠	IC3	CXL1004P	IC
	IC4	AN608P	IC
	IC5	HMC-229	IC
	Q1	2SC2647C	TRANSISTOR
	Q2	2SC2647C	TRANSISTOR
	Q3	2SB641Q	TRANSISTOR
	Q4	2SC2647C	TRANSISTOR
	Q5	2SC2647C	TRANSISTOR
	Q6	2SC2647C	TRANSISTOR
	Q7	2SC2206(C)	TRANSISTOR
	Q8	2SC2206(C)	TRANSISTOR
	Q9	2SC2206(C)	TRANSISTOR
	Q10	2SC2206(C)	TRANSISTOR
	Q11	2SC2206(C)	TRANSISTOR
	Q12	2SC2206(C)	TRANSISTOR
	Q13	2SA1254(C)	TRANSISTOR
	Q14	2SA1254(C)	TRANSISTOR
	Q15	2SA1254(C)	TRANSISTOR
	Q16	2SC2647C	TRANSISTOR
	Q17	2SC2647C	TRANSISTOR
	Q18	2SC2647C	TRANSISTOR
	Q19	2SC2647C	TRANSISTOR
	Q20	2SC2647C	TRANSISTOR
	Q21	2SC2647C	TRANSISTOR
	Q22	2SC2647C	TRANSISTOR
	Q23	2SC2647C	TRANSISTOR
	Q24	2SB641Q	TRANSISTOR
	Q25	2SC2647C	TRANSISTOR
	Q26	2SC2647C	TRANSISTOR
	Q27	2SC2206(C)	TRANSISTOR
	Q28	2SC2206(C)	TRANSISTOR
	Q29	2SC2206(C)	TRANSISTOR
	Q30	2SC2206(C)	TRANSISTOR
	Q31	2SC2206(C)	TRANSISTOR
	Q32	2SC2206(C)	TRANSISTOR
	Q33	2SA1254(C)	TRANSISTOR
	Q34	2SA1254(C)	TRANSISTOR
	Q35	2SA1254(C)	TRANSISTOR
	Q36	2SC2647C	TRANSISTOR
	Q37	2SC2647C	TRANSISTOR
	Q38	2SC2647C	TRANSISTOR
	Q39	2SC2647C	TRANSISTOR
	Q40	2SB641Q	TRANSISTOR
	Q41	2SC2647C	TRANSISTOR
	Q42	2SC2647C	TRANSISTOR
	Q43	2SC2647C	TRANSISTOR
	Q44	2SB641Q	TRANSISTOR
	Q45	2SC2647C	TRANSISTOR
	R1	QRD161J-333	RESISTOR
	R2	QRD161J-333	RESISTOR
	R3	QRD161J-471	RESISTOR
	R4	QRD161J-222	RESISTOR
	R5	QRD161J-222	RESISTOR
	R6	QRD161J-391	RESISTOR
	R7	QRD161J-391	RESISTOR
	R8	QRD161J-102	RESISTOR
	R9	QRD161J-393	RESISTOR
	R10	QRD161J-223	RESISTOR
	R11	QRD161J-393	RESISTOR
	R12	QRD161J-223	RESISTOR
	R13	QRD161J-472	RESISTOR
	R14	QRD161J-561	RESISTOR
	R15	QRD161J-102	RESISTOR
	R16	QVZ3513-152	V RESISTOR
	R17	QRD161J-222	RESISTOR
	R18	QRD161J-222	RESISTOR
	R19	QRD161J-471	RESISTOR
	R20	QRD161J-222	RESISTOR
	R21	QRD161J-473	RESISTOR
	R22	QRD161J-473	RESISTOR
	R23	QRD161J-223	RESISTOR
	R24	QRD161J-222	RESISTOR
	R25	QRD161J-223	RESISTOR
	R26	QRD161J-181	RESISTOR
	R27	QRD161J-223	RESISTOR
	R28	QRD161J-181	RESISTOR
	R29	QRD161J-222	RESISTOR
	R30	QRD161J-223	RESISTOR
	R31	QRD161J-181	RESISTOR
	R32	QRD161J-223	RESISTOR
	R33	QRD161J-181	RESISTOR
	R34	QRD161J-222	RESISTOR
	R35	QRD161J-223	RESISTOR
	R36	QRD161J-222	RESISTOR
	R37	QRD161J-102	RESISTOR
	R38	QRD161J-471	RESISTOR
	R39	QRD161J-561	RESISTOR
	R40	QRD161J-222	RESISTOR
	R41	QRD161J-104	RESISTOR
	R42	QVZ3513-103	V RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R43	QVZ3513-472	V RESISTOR
	R44	QRD161J-333	RESISTOR
	R45	QRD161J-223	RESISTOR
	R46	QRD161J-181	RESISTOR
	R47	QRD161J-102	RESISTOR
	R48	QRD161J-471	RESISTOR
	R49	QVZ3513-102	V RESISTOR
	R50	QRD161J-682	RESISTOR
	R51	QRD161J-104	RESISTOR
	R52	QVZ3513-103	V RESISTOR
	R53	QVZ3513-472	V RESISTOR
	R54	QRD161J-333	RESISTOR
	R55	QRD161J-223	RESISTOR
	R56	QRD161J-222	RESISTOR
	R57	QRD161J-821	RESISTOR
	R58	QRD161J-181	RESISTOR
	R59	QRD161J-102	RESISTOR
	R60	QRD161J-102	RESISTOR
	R61	QRD161J-102	RESISTOR
	R62	QRD161J-332	RESISTOR
	R63	QRD161J-181	RESISTOR
	R64	QVZ3513-102	V RESISTOR
	R65	QRD161J-223	RESISTOR
	R66	QRD161J-103	RESISTOR
	R67	QRD161J-102	RESISTOR
	R68	QVZ3513-102	V RESISTOR
	R69	QRD161J-102	RESISTOR
	R70	QRD161J-181	RESISTOR
	R71	QRD161J-222	RESISTOR
	R72	QRD161J-333	RESISTOR
	R73	QRD161J-103	RESISTOR
	R74	QRD161J-102	RESISTOR
	R75	QRD161J-681	RESISTOR
	R76	QRD161J-222	RESISTOR
	R77	QRD161J-102	RESISTOR
	R78	QRD161J-0R0	RESISTOR
	R79	QRD161J-152	RESISTOR
	R80	QRD161J-681	RESISTOR
	R81	QRD161J-152	RESISTOR
	R82	QRD161J-473	RESISTOR
	R83	QRD161J-473	RESISTOR
	R84	QRD161J-223	RESISTOR
	R85	QRD161J-222	RESISTOR
	R86	QRD161J-181	RESISTOR
	R87	QRD161J-223	RESISTOR
	R88	QRD161J-223	RESISTOR
	R89	QRD161J-181	RESISTOR
	R90	QRD161J-222	RESISTOR
	R91	QRD161J-181	RESISTOR
	R92	QRD161J-223	RESISTOR
	R93	QRD161J-223	RESISTOR
	R94	QRD161J-181	RESISTOR
	R95	QRD161J-222	RESISTOR
	R96	QRD161J-223	RESISTOR
	R97	QRD161J-222	RESISTOR
	R98	QRD161J-223	RESISTOR
	R99	QRD161J-103	RESISTOR
	R100	QRD161J-102	RESISTOR
	R101	QRD161J-102	RESISTOR
	R102	QRD161J-222	RESISTOR
	R103	QVZ3513-102	V RESISTOR
	R104	QRD161J-102	RESISTOR
	R105	QRD161J-222	RESISTOR
	R106	QRD161J-102	RESISTOR
	R107	QRD161J-223	RESISTOR
	R108	QRD161J-103	RESISTOR
	R109	QRD161J-471	RESISTOR
	R110	QRD161J-471	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R111	QVZ3513-471	V RESISTOR
	R112	QVZ3513-102	V RESISTOR
	R113	QRD161J-681	RESISTOR
	R114	QRD161J-331	RESISTOR
	R115	QRD161J-222	RESISTOR
	R116	QRD161J-393	RESISTOR
	R117	QRD161J-223	RESISTOR
	R118	QRD161J-393	RESISTOR
	R119	QRD161J-223	RESISTOR
	R120	QRD161J-562	RESISTOR
	R121	QRD161J-471	RESISTOR
	R122	QVZ3513-222	V RESISTOR
	R123	QRD161J-822	RESISTOR
	R124	QRD161J-393	RESISTOR
	R125	QRD161J-223	RESISTOR
	R126	QRD161J-222	RESISTOR
	R127	QVZ3513-222	V RESISTOR
	R128	QRD161J-102	RESISTOR
	R129	QRD161J-101	RESISTOR
	R130	QRD161J-222	RESISTOR
	R131	QRD161J-273	RESISTOR
	R132	QRD161J-333	RESISTOR
	R133	QRD161J-102	RESISTOR
	R134	QRD161J-102	RESISTOR
	R135	QRD161J-101	RESISTOR
	R136	QRD161J-103	RESISTOR
	C1	QEK61CM-107	E CAPACITOR
	C2	QER60JM-476	E CAPACITOR
	C3	QER60JM-476	E CAPACITOR
	C4	QER60JM-476	E CAPACITOR
	C5	QCS31HJ-6R0	CAPACITOR
	C6	QCF31HP-223	CAPACITOR
	C7	QER61CM-476	E CAPACITOR
	C8	QER61CM-106GZ	E CAPACITOR
	C9	QER61CM-106GZ	E CAPACITOR
	C10	QER61CM-106GZ	E CAPACITOR
	C11	QER61CM-106GZ	E CAPACITOR
	C12	QER61CM-106GZ	E CAPACITOR
	C13	QER61CM-106GZ	E CAPACITOR
	C14	QER61CM-106GZ	E CAPACITOR
	C15	QER61CM-476	E CAPACITOR
	C16	QCF31HP-223	CAPACITOR
	C17	QCF31HP-103	CAPACITOR
	C18	QEK61CM-107	E CAPACITOR
	C19	QEK61CM-107	E CAPACITOR
	C20	QCF31HP-103	CAPACITOR
	C21	QCF31HP-103	CAPACITOR
	C22	QCF31HP-103	CAPACITOR
	C23	QFN31HK-223	M CAPACITOR
	C24	QER61HM-335G	E CAPACITOR
	C25	QFN31HK-473	M CAPACITOR
	C26	QER61HM-335G	E CAPACITOR
	C27	QER61HM-335GZ	E CAPACITOR
	C28	QER61CM-476	E CAPACITOR
	C29	QCF31HP-223	CAPACITOR
	C30	QER61CM-106G	E CAPACITOR
	C31	QCS31HJ-120	CAPACITOR
	C32	QFN31HK-223	M CAPACITOR
	C33	QER61CM-106G	E CAPACITOR
	C34	QFN31HK-223	M CAPACITOR
	C35	QER61HM-335GZ	E CAPACITOR
	C36	QFN31HK-473	M CAPACITOR
	C37	QER61HM-335GZ	E CAPACITOR
	C38	QER61HM-335GZ	E CAPACITOR
	C39	QER61CM-476	E CAPACITOR
	C40	QCF31HP-223	CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C41	QER61CM-106GZ	E CAPACITOR
	C42	QCF31HP-103	CAPACITOR
	C43	QER60JM-476	E CAPACITOR
	C44	QER61CM-476	E CAPACITOR
	C45	QCF31HP-223	CAPACITOR
	C46	QER41AM-336	E CAPACITOR
	C47	QCF31HP-223	CAPACITOR
	C48	QER61CM-476	E CAPACITOR
	C49	QCF31HP-223	CAPACITOR
	C50	QCS31HJ-120	CAPACITOR
	C51	QFN31HK-223	M CAPACITOR
	C52	QCS31HJ-220	CAPACITOR
	C53	QER61CM-106GZ	E CAPACITOR
	C54	QFN31HK-223	M CAPACITOR
	C55	QCS31HJ-220	CAPACITOR
	C56	QFN31HK-223	M CAPACITOR
	C57	QCF31HP-223	CAPACITOR
	C58	QFN31HK-223	M CAPACITOR
	C59	QCS31HJ-2R0	CAPACITOR
	C60	QER61CM-106GZ	E CAPACITOR
	C61	QER61CM-106GZ	E CAPACITOR
	C62	QER61CM-106GZ	E CAPACITOR
	C63	QER61CM-106GZ	E CAPACITOR
	C64	QER61CM-106GZ	E CAPACITOR
	C65	QER61CM-106GZ	E CAPACITOR
	C66	QER61CM-106GZ	E CAPACITOR
	C67	QER61CM-106GZ	E CAPACITOR
	C68	QER61CM-476	E CAPACITOR
	C69	QCF31HP-223	CAPACITOR
	C70	QFN31HK-223	M CAPACITOR
	C71	QFN31HK-223	M CAPACITOR
	C72	QCS31HJ-560	CAPACITOR
	C73	QFN31HK-104	M CAPACITOR
	C74	QER60JM-476	E CAPACITOR
	C75	QER61CM-476	E CAPACITOR
	C76	QCF31HP-223	CAPACITOR
	C77	QCS31HJ-120	CAPACITOR
	C78	QER61CM-476	E CAPACITOR
	C79	QCF31HP-223	CAPACITOR
	C80	QER61AM-107	E CAPACITOR
	C81	QER61CM-476	E CAPACITOR
	C82	QCF31HP-103	CAPACITOR
	C83	QCF31HP-103	CAPACITOR
	C84	QFN31HK-223	M CAPACITOR
	C85	QCS31HJ-181	CAPACITOR
	C86	QER61CM-106GZ	E CAPACITOR
	C87	QER61CM-106GZ	E CAPACITOR
	C88	QER61CM-106GZ	E CAPACITOR
	C89	QFN31HK-223	M CAPACITOR
	C90	QFN31HK-223	M CAPACITOR
	C91	QFN31HK-223	M CAPACITOR
	C92	QFN31HK-223	M CAPACITOR
	C93	QER61CM-476	E CAPACITOR
	C94	QCF31HP-223	CAPACITOR
	L1	PU48530-221J	COIL
	L2	PU48530-221J	COIL
	L3	PU48530-150J	COIL
	L5	PU48530-221J	COIL
	L6	PU48530-221J	COIL
	L7	PU48530-221J	COIL
	L8	PU48530-221J	COIL
	L9	PU48530-150J	COIL
	L10	PU48530-221J	COIL
	L11	PU48530-221J	COIL
	L12	PU48530-221J	COIL
	L13	PU48530-221J	COIL

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	LPF1	PGZ00693	LOW PASS FILTER
	LPF2	PGZ01005	LOW PASS FILTER
	LPF3	PGZ00693	LOW PASS FILTER
	DL1	PGZ01191	DELAY LINE
	DL2	PGZ00131-003	DELAY LINE
	DL3	PGZ01004	DELAY LINE
⚠	X1	PGZ00957	CRYSTAL RESONATOR
⚠	K1	PGZ00354	FERRITE BEADS, X8
⚠	TH1	ERT-D2FHK-202S	THERMISTOR
⚠	TH2	ERT-D2FHL102S	THERMISTOR
⚠	TH4	ERT-D2FGL301S	THERMISTOR
	SLD1	PRS30012C	SHIELD ASSY
	SLD2	PRD30254	SHIELD CASE
	SLD3	PRD30255	SHIELD CAP
	TP1	PU54983	TEST PIN, X14
	CN1	PU58844-107	CAP HOUSING
	CN2	PU58844-104	CAP HOUSING
	CN3	PU58844-102	CAP HOUSING

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* 6.2.5 VIDEO PRE/RECAMP BOARD ASSEMBLY <05> *

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	PWBA	PRK20021A-01	VIDEO P/R AMP BOARD ASSY
	IC1	AN6392	IC
	IC2	AN6392	IC
	IC3	TA7772P	IC
	IC4	TA7772P	IC
	Q1	2SC2778C	TRANSISTOR
	Q3	2SC2778C	TRANSISTOR
	Q5	2SC2778C	TRANSISTOR
	Q6	2SC2778C	TRANSISTOR
	Q7	DTC144EK	TRANSISTOR
	Q8	DTA114EK	TRANSISTOR
	Q9	DTC144EK	TRANSISTOR
	Q10	2SD601(R)	TRANSISTOR
	Q11	2SD601(R)	TRANSISTOR
	Q12	DTC114EK	TRANSISTOR
	Q13	2SC2778C	TRANSISTOR
	Q14	2SC2778C	TRANSISTOR
	Q15	2SC2778C	TRANSISTOR
	Q16	2SC2778C	TRANSISTOR
	Q17	2SC2778C	TRANSISTOR
	Q18	2SC2778C	TRANSISTOR
	Q21	2SC2778C	TRANSISTOR
	Q23	2SC2778C	TRANSISTOR
	Q24	2SC2778C	TRANSISTOR
	Q26	2SC2778C	TRANSISTOR
	Q27	2SC2778C	TRANSISTOR
	Q28	2SC2778C	TRANSISTOR
	Q29	2SC2778C	TRANSISTOR
	Q30	2SC2778C	TRANSISTOR
	Q33	2SC2778C	TRANSISTOR
	Q34	2SC2778C	TRANSISTOR
	Q36	2SB709(R)	TRANSISTOR
	Q37	DTC144EK	TRANSISTOR
	Q38	2SC2778C	TRANSISTOR
	Q39	2SC2778C	TRANSISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	D3	1SS133	DIODE
	R1	QRSA08J-681YN	RESISTOR
	R2	QRSA08J-331YN	RESISTOR
	R3	QVZ3513-331	V RESISTOR
	R4	QRSA08J-390YN	RESISTOR
	R6	QRSA08J-821YN	RESISTOR
	R7	QRSA08J-152YN	RESISTOR
	R10	QVZ3513-331	V RESISTOR
	R12	QRSA08J-393YN	RESISTOR
	R13	QRSA08J-222YN	RESISTOR
	R14	QRSA08J-681YN	RESISTOR
	R15	QRSA08J-331YN	RESISTOR
	R16	QVZ3513-331	V RESISTOR
	R17	QRSA08J-390YN	RESISTOR
	R19	QRSA08J-821YN	RESISTOR
	R20	QRSA08J-152YN	RESISTOR
	R23	QVZ3513-331	V RESISTOR
	R25	QRSA08J-393YN	RESISTOR
	R26	QRSA08J-222YN	RESISTOR
	R27	QRSA08J-390YN	RESISTOR
	R28	QRSA08J-390YN	RESISTOR
	R29	QRSA08J-103YN	RESISTOR
	R30	QRSA08J-103YN	RESISTOR
	R31	QRSA08J-103YN	RESISTOR
	R32	QRSA08J-103YN	RESISTOR
	R33	QRSA08J-103YN	RESISTOR
	R34	QRSA08J-182YN	RESISTOR
	R35	QRSA08J-103YN	RESISTOR
	R36	QRSA08J-3R9YN	C RESISTOR
	R37	QRSA08J-3R9YN	C RESISTOR
	R38	QRSA08J-3R9YN	C RESISTOR
	R39	QRSA08J-3R9YN	C RESISTOR
	R40	QRSA08J-182YN	RESISTOR
	R41	QVZ3513-331	V RESISTOR
	R42	QRSA08J-271YN	RESISTOR
	R43	QVZ3513-102	V RESISTOR
	R44	QVZ3513-102	V RESISTOR
	R45	QRSA08J-331YN	RESISTOR
	R46	QVZ3513-331	V RESISTOR
	R48	QRSA08J-102YN	RESISTOR
	R50	QRSA08J-271YN	RESISTOR
	R52	QRSA08J-390YN	RESISTOR
	R53	QRD161J-222	RESISTOR
	R55	QRD161J-222	RESISTOR
	R56	QRSA08J-222YN	RESISTOR
	R57	QRSA08J-222YN	RESISTOR
	R58	QRSA08J-222YN	RESISTOR
	R59	QRSA08J-222YN	RESISTOR
	R62	QRD161J-103	RESISTOR
	R63	QVZ3513-222	V RESISTOR
	R64	QRSA08J-102YN	RESISTOR
	R65	QVZ3513-102	V RESISTOR
	R66	QVZ3513-102	V RESISTOR
	R67	QRSA08J-102YN	RESISTOR
	R68	QVZ3513-222	V RESISTOR
	R70	QRSA08J-102YN	RESISTOR
	R71	QRSA08J-271YN	RESISTOR
	R73	QRSA08J-390YN	RESISTOR
	R75	QRSA08J-222YN	RESISTOR
	R77	QRSA08J-222YN	RESISTOR
	R78	QRSA08J-222YN	RESISTOR
	R79	QRD161J-222	RESISTOR
	R80	QRD161J-222	RESISTOR
	R81	QRSA08J-222YN	RESISTOR
	R83	QRD161J-103	RESISTOR
	R89	QRSA08J-223YN	RESISTOR
	R90	QRSA08J-333YN	RESISTOR
	R91	QRSA08J-223YN	RESISTOR
	R92	QRSA08J-333YN	RESISTOR
	R95	QRSA08J-101YN	RESISTOR
	R96	QRSA08J-101YN	RESISTOR
	R97	QRSA08J-102YN	RESISTOR
	R98	QRSA08J-473YN	RESISTOR
	R99	QRSA08J-473YN	RESISTOR
	R100	QRSA08J-223YN	RESISTOR
	R101	QRSA08J-473YN	RESISTOR
	R102	QRSA08J-103YN	RESISTOR
	R103	QRSA08J-103YN	RESISTOR
	R104	QRSA08J-103YN	RESISTOR
	R105	QRSA08J-103YN	RESISTOR
	R106	QRSA08J-103YN	RESISTOR
	R107	QRSA08J-222YN	RESISTOR
	R108	QRSA08J-272YN	RESISTOR
	R109	QRSA08J-152YN	RESISTOR
	R110	QRSA08J-222YN	RESISTOR
	R111	QRSA08J-272YN	RESISTOR
	R112	QRSA08J-152YN	RESISTOR
	C1	QCYA1HK-223	CAPACITOR
	C2	QCTA1CH-150	CAPACITOR
	C3	QCYA1HK-223	CAPACITOR
	C4	QCYA1HK-223	CAPACITOR
	C5	QCYA1HK-223	CAPACITOR
	C7	QCTA1CH-680	CAPACITOR
	C9	QCYA1HK-223	CAPACITOR
	C10	QCTA1CH-120	CAPACITOR
	C11	QCYA1HK-103	CAPACITOR
	C12	QRD167J-0R0	RESISTOR
	C13	QER61HM-105	E CAPACITOR
	C14	QCYA1HK-223	CAPACITOR
	C15	QER61CM-476	E CAPACITOR
	C16	QCYA1HK-223	CAPACITOR
	C17	QCTA1CH-150	CAPACITOR
	C18	QCYA1HK-223	CAPACITOR
	C19	QCYA1HK-223	CAPACITOR
	C20	QCYA1HK-223	CAPACITOR
	C22	QCTA1CH-680	CAPACITOR
	C24	QCYA1HK-223	CAPACITOR
	C25	QCTA1CH-120	CAPACITOR
	C26	QCYA1HK-103	CAPACITOR
	C27	QRD167J-0R0	RESISTOR
	C28	QER61HM-105	E CAPACITOR
	C29	QCYA1HK-223	CAPACITOR
	C30	QER61CM-476	E CAPACITOR
	C33	QCYA1HK-223	CAPACITOR
	C39	QCYA1HK-223	CAPACITOR
	C40	QCYA1HK-223	CAPACITOR
	C41	QCYA1HK-223	CAPACITOR
	C44	QAT3001-017	TRIMMER CAPACITOR
	C45	QCYA1HK-223	CAPACITOR
	C47	QCYA1HK-223	CAPACITOR
	C48	QCYA1HK-223	CAPACITOR
	C49	QCYA1HK-223	CAPACITOR
	C50	QCYA1HK-223	CAPACITOR
	C51	QCTA1CH-820	CAPACITOR
	C53	QCYA1HK-223	CAPACITOR
	C55	QCTA1CH-820	CAPACITOR
	C56	QCYA1HK-223	CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C57	QCYA1HK-223	CAPACITOR
	C58	QCYA1HK-223	CAPACITOR
	C59	QCYA1HK-223	CAPACITOR
	C60	QAT3001-017	TRIMMER CAPACITOR
	C61	QCYA1HK-103	CAPACITOR
	C62	QCYA1HK-223	CAPACITOR
	C63	QCYA1HK-223	CAPACITOR
	C65	QCYA1HK-223	CAPACITOR
	C66	QER61HM-105	E CAPACITOR
	C67	QER61HM-105	E CAPACITOR
	C68	QCYA1HK-223	CAPACITOR
	C69	QER60JM-476	E CAPACITOR
	C71	QFN41HK-223	M CAPACITOR
	C72	QCYA1HK-223	CAPACITOR
	C74	QCYA1HK-223	CAPACITOR
	C75	QCYA1HK-223	CAPACITOR
	C76	QCYA1HK-223	CAPACITOR
	C77	QCYA1HK-223	CAPACITOR
	C78	QCTA1CH-820	CAPACITOR
	C80	QCYA1HK-223	CAPACITOR
	C82	QCTA1CH-820	CAPACITOR
	C83	QCYA1HK-223	CAPACITOR
	C84	QCYA1HK-223	CAPACITOR
	C85	QCYA1HK-223	CAPACITOR
	C86	QCYA1HK-223	CAPACITOR
	C87	QCYA1HK-223	CAPACITOR
	C88	QCYA1HK-223	CAPACITOR
	C89	QFN41HK-223	M CAPACITOR
	C91	QCYA1HK-103	CAPACITOR
	C93	QCYA1HK-223	CAPACITOR
	C96	QCYA1HK-223	CAPACITOR
	C97	QER60JM-476	E CAPACITOR
	C98	QCYA1HK-223	CAPACITOR
	C99	QER60JM-476	E CAPACITOR
	C100	QCYA1HK-223	CAPACITOR
	C101	QER60JM-476	E CAPACITOR
	C102	QCYA1HK-223	CAPACITOR
	C103	QCYA1HK-223	CAPACITOR
	C104	QCYA1HK-223	CAPACITOR
	L1	PU48530-6R8J	COIL
	L2	PU48530-150J	COIL
	L3	PU48530-221J	COIL
	L4	PU48530-6R8J	COIL
	L5	PU48530-150J	COIL
	L7	PU48530-101J	COIL
	L8	PU48530-6R8J	COIL
	L9	PU48530-6R8J	COIL
	L11	PU48530-6R8J	COIL
	L12	QRD167J-0R0	RESISTOR
	L14	PU48530-101J	COIL
	L15	PU48530-221J	COIL
	L16	PU48530-221J	COIL
	L17	PU48530-221J	COIL
	L18	PU48530-221J	COIL
	RY1	PU56431	RELAY
	RY2	PU56431	RELAY
	RY3	PU56431	RELAY
⚠	TH1	ERT-D2FHL102S	THERMISTOR
⚠	TH2	ERT-D2FHL102S	THERMISTOR
	BKT1	PRD40520	BRACKET(R)
	BKT2	PRD40521	BRACKET(L)
	CSN1	PGD40901	CUSHION

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	ETH1	PRD42479	EARTH PLATE
	SCW1	DPSP3006Z	SCREW, X4
	SLD1	PGD30377-01-02	SHIELD CASE (B)
	SLD2	PGD40902B-02	SHIELD CASE ASSY
	SLD3	PGD40698-03	SHIELD CASE
	SLD4	PGD30378-01-02	SHIELD CASE(C)
	SLD5	PRS40011A	SHIELD CASE ASSY
	GND1	PU54983	TEST PIN, X6
	TP1	PU54983	TEST PIN, X18
	CN1	PU58844-4	CAP HOUSING
	CN2	PU58844-8	CAP HOUSING
	CN3	PU58844-5	CAP HOUSING
	CN4	PU56258-8	CAP HOUSING
	CN5	PU58844-2	CAP HOUSING

6.2.6 FULL ERASE HEAD BOARD <06>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWB	PU53259-1-4	FULL ERASE HEAD BOARD
	IC1	3VT01 OR HMC-230	IC IC
	C1	QFP42AG-363	P CAPACITOR

6.2.7 FM AUDIO BOARD ASSEMBLY <07>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE10069B-04	FM AUDIO BOARD ASSY
	CN5	PGZ00421-64	MALE CONNECTOR

-FM AUDIO SECTION-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	IC1	NJM2068MD	IC
	IC2	NJM2068MD	IC
	IC3	AN6298NS	IC
	IC4	AN6298NS	IC
	IC5	AN3922NS	IC
	IC6	AN3922NS	IC
⚠	IC7	TA78L009AP	IC
⚠	IC8	NJM78L05D	IC
⚠	IC9	NJM78L05D	IC
	IC12	TC4S71F	IC
	IC13	TC4S71F	IC
	Q4	2SD973R	TRANSISTOR
	Q5	2SC1740S(S)	TRANSISTOR
	Q6	2SA1309S	TRANSISTOR
	Q8	2SC2412K(S)	TRANSISTOR
	Q9	2SC2412K(S)	TRANSISTOR
	Q10	2SC1740S(S)	TRANSISTOR
	Q11	2SA1309S	TRANSISTOR
	Q12	2SC3311A(RS)	TRANSISTOR
	Q13	2SD973AR	TRANSISTOR
	Q14	2SD973AR	TRANSISTOR
	Q15	DTA124ES	TRANSISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q16	DTA143ES	TRANSISTOR
	Q17	2SC1740S(QRS)	TRANSISTOR
	Q20	2SB643R,S	TRANSISTOR
	Q21	2SD638R,S	TRANSISTOR
	Q22	2SC3311A(RS)	TRANSISTOR
	Q23	DTC124ES	TRANSISTOR
	Q26	2SD973AR	TRANSISTOR
	Q28	DTA124ES	TRANSISTOR
	Q29	DTA124ES	TRANSISTOR
	Q30	DTA124ES	TRANSISTOR
	Q31	DTC124ES	TRANSISTOR
	Q32	2SA1309S	TRANSISTOR
	Q33	2SC3311A(RS)	TRANSISTOR
	Q34	2SA1309S	TRANSISTOR
	Q35	2SC1740S(S)	TRANSISTOR
	Q40	DTA124ES	TRANSISTOR
	Q41	2SA1309(S)	TRANSISTOR
	Q42	2SA1309S	TRANSISTOR
	Q43	DTC144EK	TRANSISTOR
	Q44	2SB793AR	TRANSISTOR
	Q51	DTC114EK	TRANSISTOR
	D1	DA204K	DIODE
	D3	1SS133	DIODE
	D4	1SS133	DIODE
	D5	1SS133	DIODE
	D8	1SS133	DIODE
	D9	1SS133	DIODE
	D14	1SS133	DIODE
	D15	1SS133	DIODE
	D16	1SS133	DIODE
	D17	1SS133	DIODE
	D18	1SS133	DIODE
	D19	DA204K	DIODE
	D20	1SS133	DIODE
	D21	1SS133	DIODE
	D23	1SS133	DIODE
	D24	DAN202K	DIODE ARRAY
	R9	QVZ3513-332	V RESISTOR
	R10	QRV143F-4700	CMF RESISTOR
	R11	QRV143F-6201	CMF RESISTOR
	R12	QRV143F-1201	CMF RESISTOR
	R13	QRSA08J-472YN	RESISTOR
	R14	QRV143F-2401	CMF RESISTOR
	R15	QRV143F-6810	CMF RESISTOR
	R16	QRV143F-5601	CMF RESISTOR
	R17	QRV143F-1802	CMF RESISTOR
	R23	QRSA08J-682YN	RESISTOR
	R24	QRSA08J-473YN	RESISTOR
	R25	QRSA08J-271YN	RESISTOR
	R26	QRSA08J-272YN	RESISTOR
	R27	QRSA08J-152YN	RESISTOR
	R28	QRSA08J-221YN	RESISTOR
	R29	QVZ3513-332	V RESISTOR
	R30	QRV143F-3901	CMF RESISTER
	R31	QRSA08J-102YN	RESISTOR
	R32	QVZ3513-332	V RESISTOR
	R34	QRSA08J-223YN	RESISTOR
	R35	QRSA08J-223YN	RESISTOR
	R36	QRSA08J-223YN	RESISTOR
	R37	QRSA08J-223YN	RESISTOR
	R38	QRSA08J-102YN	RESISTOR
	R39	QRSA08J-332YN	RESISTOR
	R40	QRSA08J-332YN	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R41	QRSA08J-102YN	RESISTOR
	R42	QRSA08J-223YN	RESISTOR
	R43	QRSA08J-223YN	RESISTOR
	R44	QRSA08J-102YN	RESISTOR
	R45	QRSA08J-152YN	RESISTOR
	R46	QRSA08J-332YN	RESISTOR
	R47	QRSA08J-332YN	RESISTOR
	R48	QRSA08J-152YN	RESISTOR
	R49	QRSA08J-472YN	RESISTOR
	R50	QRSA08J-100YN	RESISTOR
	R51	QRSA08J-100YN	RESISTOR
	R56	QRSA08J-102YN	RESISTOR
	R57	QRSA08J-683YN	RESISTOR
	R58	QRSA08J-683YN	RESISTOR
	R59	QRSA08J-561YN	RESISTOR
	R60	QRSA08J-561YN	RESISTOR
	R61	QRSA08J-102YN	RESISTOR
	R62	QRSA08J-473YN	RESISTOR
	R63	QRSA08J-103YN	RESISTOR
	R64	QRSA08J-473YN	RESISTOR
	R65	QRSA08J-473YN	RESISTOR
	R66	QRSA08J-473YN	RESISTOR
	R67	QRSA08J-473YN	RESISTOR
	R68	QRSA08J-103YN	RESISTOR
	R69	QRSA08J-473YN	RESISTOR
	R73	QVZ3513-332	V RESISTOR
	R74	QRSA08J-102YN	RESISTOR
	R75	QRSA08J-123YN	RESISTOR
	R76	QRSA08J-473YN	RESISTOR
	R77	QRSA08J-473YN	RESISTOR
	R78	QRSA08J-473YN	RESISTOR
	R79	QVZ3513-222	V RESISTOR
	R80	QRV143F-2701	CMF RESISTOR
	R81	QRSA08J-101YN	RESISTOR
	R83	QRSA08J-183YN	RESISTOR
	R84	QRSA08J-682YN	RESISTOR
	R85	QRSA08J-682YN	RESISTOR
	R86	QRSA08J-473YN	RESISTOR
	R87	QRSA08J-271YN	RESISTOR
	R88	QRSA08J-272YN	RESISTOR
	R89	QRSA08J-152YN	RESISTOR
	R90	QRSA08J-221YN	RESISTOR
	R91	QRSA08J-222YN	RESISTOR
	R92	QRSA08J-102YN	RESISTOR
	R93	QRSA08J-682YN	RESISTOR
	R94	QRSA08J-152YN	RESISTOR
	R95	QVZ3513-472	V RESISTOR
	R96	QRV143F-1101	CMF RESISTOR
	R97	QRV143F-1002	CMF RESISTOR
	R98	QRV143F-9101	CMF RESISTOR
	R99	QRSA08J-332YN	RESISTOR
	R100	QRV143F-1602	CMF RESISTOR
	R101	QRSA08J-562YN	RESISTOR
	R102	QRSA08J-472YN	RESISTOR
	R103	QRV143F-5601	CMF RESISTOR
	R104	QRV143F-1802	CMF RESISTOR
	R105	QRV143F-2401	CMF RESISTOR
	R106	QRV143F-6810	CMF RESISTOR
	R107	QRV143F-1201	CMF RESISTOR
	R108	QRV143F-6201	CMF RESISTOR
	R109	QRSA08J-472YN	RESISTOR
	R111	QRSA08J-102YN	RESISTOR
	R112	QRSA08J-561YN	RESISTOR
	R113	QRSA08J-561YN	RESISTOR
	R114	QRSA08J-473YN	RESISTOR
	R115	QRSA08J-473YN	RESISTOR

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*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R117	QRSA08J-103YN	RESISTOR
	R118	QRSA08J-123YN	RESISTOR
	R119	QRSA08J-473YN	RESISTOR
	R120	QRSA08J-473YN	RESISTOR
	R121	QRSA08J-123YN	RESISTOR
	R122	QRSA08J-103YN	RESISTOR
	R123	QRSA08J-102YN	RESISTOR
	R124	QRSA08J-104YN	RESISTOR
	R125	QRSA08J-153YN	RESISTOR
	R127	QRSA08J-563YN	RESISTOR
	R130	QRSA08J-561YN	RESISTOR
	R131	QRSA08J-561YN	RESISTOR
	R132	QVZ3513-332	V RESISTOR
	R139	QRSA08J-104YN	RESISTOR
	R140	QRSA08J-103YN	RESISTOR
	R145	QRSA08J-562YN	RESISTOR
	R146	QRSA08J-223YN	RESISTOR
	R147	QRV143F-1002	CMF RESISTOR
	R148	QRV143F-1101	CMF RESISTOR
	R149	QRV143F-9101	CMF RESISTOR
	R150	QRV143F-1602	CMF RESISTOR
	R151	QRSA08J-332YN	RESISTOR
	R152	QRSA08J-223YN	RESISTOR
	R153	QVZ3513-472	V RESISTOR
	R154	QRSA08J-152YN	RESISTOR
	R155	QRSA08J-682YN	RESISTOR
	R156	QRSA08J-182YN	RESISTOR
	R157	QRSA08J-222YN	RESISTOR
	R158	QRSA08J-102YN	RESISTOR
	R159	QRSA08J-682YN	RESISTOR
	R160	QRSA08J-102YN	RESISTOR
	R161	QRSA08J-682YN	RESISTOR
	R162	QRSA08J-183YN	RESISTOR
	R163	QRSA08J-101YN	RESISTOR
	R164	QRSA08J-473YN	RESISTOR
	R165	QRSA08J-123YN	RESISTOR
	R167	QRSA08J-473YN	RESISTOR
	R168	QRSA08J-473YN	RESISTOR
	R176	QRSA08J-102YN	RESISTOR
⚠	R177	PU52108-1R0	POSITIVE THERMISTOR
⚠	R178	PU52108-1R0	POSITIVE THERMISTOR
⚠	R179	PU52108-1R0	POSITIVE THERMISTOR
	R180	QRSA08J-103YN	RESISTOR
	R181	QRSA08J-223YN	RESISTOR
	R182	QRSA08J-102YN	RESISTOR
	R183	QRV143F-4700	CMF RESISTOR
	R186	QRSA08J-104YN	RESISTOR
	R190	QRSA08J-683YN	RESISTOR
	R191	QRSA08J-683YN	RESISTOR
	R192	QRSA08J-181YN	RESISTOR
	R193	QRSA08J-181YN	RESISTOR
	R194	QRSA08J-104YN	RESISTOR
	R195	QRSA08J-104YN	RESISTOR
	R196	QRSA08J-181YN	RESISTOR
	R197	QRSA08J-181YN	RESISTOR
	R198	QRSA08J-103YN	RESISTOR
	R199	QRSA08J-822YN	RESISTOR
	R200	QRSA08J-822YN	RESISTOR
	R201	QRSA08J-0R0Y	RESISTOR, X41
	R250	QRSA08J-0R0Y	RESISTOR
	R272	QRSA08J-152YN	RESISTOR
	R273	QRSA08J-473YN	RESISTOR
	R274	QRSA08J-223YN	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C7	QCYA1HK-103	CAPACITOR
	C8	QETC1CM-107	E CAPACITOR
	C9	QEPA1CM-226	NP E CAPACITOR
	C10	QFP42AF-102	PP CAPACITOR
	C11	QFP42AF-102	PP CAPACITOR
	C12	QFP42AF-222	PP CAPACITOR
	C13	QFP42AF-103M	PP CAPACITOR
	C14	QFP42AF-103M	PP CAPACITOR
	C15	QEPA1CM-106	NP E CAPACITOR
	C16	QEPA0JM-476	NP E CAPACITOR
	C19	QCTA1CH-101	CAPACITOR
	C20	QCYA1HK-103	CAPACITOR
	C21	QCTA1CH-820	CAPACITOR
	C22	QCYA1HK-103	CAPACITOR
	C23	QCTA1CH-680	CAPACITOR
	C24	QCTA1CH-680	CAPACITOR
	C25	QCYA1HK-103	CAPACITOR
	C26	QCYA1HK-103	CAPACITOR
	C27	QCYA1HK-103	CAPACITOR
	C28	QCYA1HK-103	CAPACITOR
	C29	QCYA1HK-103	CAPACITOR
	C30	QCYA1HK-103	CAPACITOR
	C31	QCYA1HK-103	CAPACITOR
	C32	QETC1EM-107	E CAPACITOR
	C33	QCYA1HK-103	CAPACITOR
	C34	QETC1CM-106	E CAPACITOR
	C39	QCYA1HK-222	CAPACITOR
	C40	QEZ0116-226	E CAPACITOR
	C41	QEZ0116-226	E CAPACITOR
	C42	QCTA1CH-8R0	CAPACITOR
	C43	QCTA1CH-8R0	CAPACITOR
	C44	QETC1CM-226	E CAPACITOR
	C45	QETC1CM-226	E CAPACITOR
	C46	QCYA1HK-103	CAPACITOR
	C47	QETC1CM-476	E CAPACITOR
	C48	QEPA1CM-226	NP E CAPACITOR
	C49	QEPA1CM-226	NP E CAPACITOR
	C54	QETA1HM-104	E CAPACITOR
	C55	QCYA1HK-103	CAPACITOR
	C56	QETA1HM-105	E CAPACITOR
	C57	QCYA1HK-103	CAPACITOR
	C58	QETC0JM-476	E CAPACITOR
	C59	QFN31HJ-272	M CAPACITOR
	C60	QFN41HK-561	M CAPACITOR
	C61	QETC0JM-476	E CAPACITOR
	C62	QCYA1HK-103	CAPACITOR
	C63	QETC1HM-105	E CAPACITOR
	C64	QEZ0117-475	E CAPACITOR
	C65	QCYA1HK-103	CAPACITOR
	C66	QFN31HJ-222	M CAPACITOR
	C68	QFN41HK-561	M CAPACITOR
	C69	QEZ0116-106	E CAPACITOR
	C72	QCTA1CH-470	CAPACITOR
	C73	QCTA1CH-470	CAPACITOR
	C74	QCYA1HK-103	CAPACITOR
	C75	QCTA1CH-820	CAPACITOR
	C76	QCYA1HK-103	CAPACITOR
	C77	QCTA1CH-101	CAPACITOR
	C78	QETC0JM-476	E CAPACITOR
	C79	QFN41HK-561	M CAPACITOR
	C80	QFN31HJ-272	M CAPACITOR
	C81	QEZ0117-475	E CAPACITOR
	C82	QCYA1HK-103	CAPACITOR
	C83	QETC0JM-476	E CAPACITOR
	C84	QETC1HM-105	E CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C85	QETC1HM-105	E CAPACITOR
	C86	QFN31HJ-222	M CAPACITOR
	C87	QFN41HK-561	M CAPACITOR
	C88	QEZ0116-106	E CAPACITOR
	C90	QETC1CM-476	E CAPACITOR
	C91	QCYA1HK-103	CAPACITOR
	C92	QETC1EM-476	E CAPACITOR
	C93	QCYA1HK-103	CAPACITOR
	C94	QEZ0116-106	E CAPACITOR
	C95	QEB61EM-475	LL CAPACITOR
	C96	QEZ0116-476	E CAPACITOR
	C97	QFP32AJ-223M	P CAPACITOR
	C98	QFP42AF-102	PP CAPACITOR
	C99	QFP42AF-222	PP CAPACITOR
	C100	QEZ0117-475	E CAPACITOR
	C101	QETA1CM-476	E CAPACITOR
	C102	QETC1CM-476	E CAPACITOR
	C103	QEZ0116-106	E CAPACITOR
	C105	QETC1EM-476	E CAPACITOR
	C113	QETC1HM-105	E CAPACITOR
	C114	QEZ0116-106	E CAPACITOR
	C115	QEZ0116-476	E CAPACITOR
	C116	QFP32AJ-223M	P CAPACITOR
	C117	QETA1CM-477	E CAPACITOR
	C118	QETA1CM-476	E CAPACITOR
	C119	QCYA1HK-103	CAPACITOR
	C120	QETC1CM-476	E CAPACITOR
	C121	QCYA1HK-103	CAPACITOR
	C122	QCYA1HK-103	CAPACITOR
	C123	QETC0JM-476	E CAPACITOR
	C124	QEB61EM-475	LL CAPACITOR
	C125	QFP42AF-222	PP CAPACITOR
	C126	QFP42AF-102	PP CAPACITOR
	C127	QFP42AF-222	PP CAPACITOR
	C128	QETC1CM-476	E CAPACITOR
	C129	QETC1CM-476	E CAPACITOR
	C130	QEZ0116-106	E CAPACITOR
	C132	QCTA1CH-100	CAPACITOR
	C133	QETC1CM-106	E CAPACITOR
	C134	QEZ0116-476	E CAPACITOR
	C135	QEPA1CM-226	NP E CAPACITOR
	C136	QEPA1CM-226	NP E CAPACITOR
	C137	QCTA1CH-100	CAPACITOR
	C138	QCYA1HK-103	CAPACITOR
	C139	QETC1CM-476	E CAPACITOR
	C140	QETC1CM-106	E CAPACITOR
	C142	QFN31HJ-222	M CAPACITOR
	C143	QEZ0117-475	E CAPACITOR
	C146	QEPA0JM-476	NP E CAPACITOR
	C147	QEPA1CM-106	NP E CAPACITOR
	C148	QFP42AF-103M	PP CAPACITOR
	C149	QFP42AF-103M	PP CAPACITOR
	C150	QFP42AF-102	PP CAPACITOR
	C151	QFP42AF-222	PP CAPACITOR
	C152	QEPA1CM-226	NP E CAPACITOR
	C153	QFP42AF-102	PP CAPACITOR
	C154	QCYA1HK-103	CAPACITOR
	C155	QETC1CM-107	E CAPACITOR
	C156	QCYA1HK-103	CAPACITOR
	C158	QETC1CM-476	E CAPACITOR
	C159	QETC1CM-476	E CAPACITOR
	C160	QETC1CM-106	E CAPACITOR
	C161	QEZ0116-106	E CAPACITOR
	C162	QEZ0116-106	E CAPACITOR
	C163	QETC1CM-107	E CAPACITOR
	C164	QCFA1EZ-104	CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C165	QCFA1EZ-104	CAPACITOR
	L1	PU48530-271J	COIL
	L2	PU48530-271J	COIL
	L3	PU48530-271J	COIL
	L4	PU30284-1R	COIL
	L5	PU30284-1R	COIL
	L6	PU48530-271J	COIL
	L8	PU48530-121J	COIL
	L9	PU48530-101J	COIL
	L10	PU48530-271J	COIL
	L12	PU48530-271J	COIL
	TP1	PU56008	TEST PIN ,X10
	CN1	PU58844-2Y	CAP HOUSING
	CN2	PU58844-10	CAP HOUSING
	CN3	PU58844-4	CAP HOUSING
		-BIAS ERASE SECTION-	
	Q311	2SD973AR	TRANSISTOR
	Q312	2SD973AR	TRANSISTOR
	Q321	DTC124ES	TRANSISTOR
	Q322	DTC124ES	TRANSISTOR
	Q401	2SD1423(RS)	TRANSISTOR
	Q402	2SD1423(RS)	TRANSISTOR
	Q403	2SD637R,S	TRANSISTOR
	Q405	2SC1846(R)	TRANSISTOR
	Q406	2SC1846(R)	TRANSISTOR
	Q407	2SC1846(R)	TRANSISTOR
	Q408	2SC1846(R)	TRANSISTOR
	Q409	2SD1423(RS)	TRANSISTOR
	Q410	2SD1423(RS)	TRANSISTOR
	Q411	2SD973AR	TRANSISTOR
	Q412	2SD973AR	TRANSISTOR
	Q413	2SD973AR	TRANSISTOR
	Q414	2SD973AR	TRANSISTOR
	Q415	2SD1423(RS)	TRANSISTOR
	Q416	2SD1423(RS)	TRANSISTOR
	Q417	2SC2878A,B	TRANSISTOR
	Q418	2SC2878A,B	TRANSISTOR
	Q419	2SC2878A,B	TRANSISTOR
	Q420	2SC2878A,B	TRANSISTOR
	R303	QRSA08J-102YN	RESISTOR
	R304	QRSA08J-102YN	RESISTOR
	R305	QRSA08J-102YN	RESISTOR
	R306	QRD161J-102	RESISTOR
	R307	QVZ3514-332	V RESISTOR
	R308	QVZ3514-332	V RESISTOR
	R309	QRSA08J-104YN	RESISTOR
	R310	QRSA08J-104YN	RESISTOR
	R401	QRSA08J-124YN	RESISTER
	R402	QRSA08J-124YN	RESISTER
	R403	QRSA08J-473YN	RESISTOR
	R404	QRSA08J-473YN	RESISTOR
	R405	QRSA08J-102YN	RESISTOR
	R406	QRSA08J-102YN	RESISTOR
	R407	QRSA08J-102YN	RESISTOR
	R408	QRSA08J-102YN	RESISTOR
	R409	QRSA08J-182YN	RESISTOR
	R410	QRSA08J-273YN	RESISTOR
	R411	QRSA08J-123YN	RESISTOR
	R412	QRSA08J-222YN	RESISTOR
	R413	QRSA08J-333YN	RESISTOR
	R414	QRSA08J-333YN	RESISTOR
	R415	QRSA08J-153YN	RESISTOR

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*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R416	QRSA08J-153YN	RESISTOR
	R417	QRSA08J-122YN	RESISTOR
	R418	QRSA08J-122YN	RESISTOR
	R419	QRD161J-122	RESISTOR
	R420	QRSA08J-122YN	RESISTOR
	R421	QRSA08J-182YN	RESISTOR
	R422	QRSA08J-182YN	RESISTOR
	R423	QRSA08J-562YN	RESISTOR
	R424	QRSA08J-562YN	RESISTOR
	R425	QRSA08J-562YN	RESISTOR
	R426	QRSA08J-562YN	RESISTOR
⚠	R427	QRZ0054-180	RESISTOR
⚠	R428	QRZ0054-180	RESISTOR
	R429	QRD161J-470	RESISTOR
	R430	QRSA08J-470YN	RESISTOR
	R431	QRD161J-271	RESISTOR
	R432	QRD161J-271	RESISTOR
	R433	QRSA08J-153YN	RESISTOR
	R434	QRSA08J-153YN	RESISTOR
	R435	QRSA08J-822YN	RESISTOR
	R436	QRSA08J-822YN	RESISTOR
	R437	QRSA08J-822YN	RESISTOR
	R438	QRSA08J-822YN	RESISTOR
	R439	QRSA08J-562YN	RESISTOR
	R440	QRSA08J-562YN	RESISTOR
	R441	QRSA08J-562YN	RESISTOR
	R442	QRSA08J-562YN	RESISTOR
	R443	QRD167J-391	RESISTOR
	R444	QRD167J-391	RESISTOR
⚠	R445	QRZ0054-470	FUSIBLE RESISTOR
⚠	R446	QRZ0054-470	FUSIBLE RESISTOR
	R447	QRSA08J-221YN	RESISTOR
	R448	QRSA08J-221YN	RESISTOR
	R449	QRSA08J-122YN	RESISTOR
	R450	QRSA08J-122YN	RESISTOR
	R451	QVZ3514-473	V RESISTOR
	R452	QVZ3514-473	V RESISTOR
	R455	QRSA08J-2R2YN	RESISTOR
	R456	QRSA08J-2R2YN	RESISTOR
	R461	QRSA08J-222YN	RESISTOR
	R462	QRSA08J-222YN	RESISTOR
	R463	QRSA08J-222YN	RESISTOR
	R464	QRSA08J-222YN	RESISTOR
	R465	QRSA08J-2R2YN	RESISTOR
	R466	QRSA08J-2R2YN	RESISTOR
	R467	QRSA08J-681YN	RESISTOR
	R468	QRSA08J-681YN	RESISTOR
	R500	QRSA08J-0R0Y	RESISTOR
	R502	QRSA08J-0R0Y	RESISTOR
	C303	QETC1CM-476	E CAPACITOR
	C304	QETC1CM-476	E CAPACITOR
	C305	QCYA1HK-103	CAPACITOR
	C306	QCVB1CM-103	CAPACITOR
	C307	QETC1CM-476	E CAPACITOR
	C308	QETC1CM-476	E CAPACITOR
	C309	QCYA1HK-103	CAPACITOR
	C310	QCVB1CM-103	CAPACITOR
	C311	QCVB1CM-103	CAPACITOR
	C312	QCVB1CM-103	CAPACITOR
	C313	QETC1CM-476	E CAPACITOR
	C314	QETC1CM-476	E CAPACITOR
	C402	QETC1CM-476	E CAPACITOR
	C404	QCVB1CM-103	CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C405	QFP32AJ-222	PP CAPACITOR
	C406	QFP32AJ-392	PP CAPACITOR
	C407	QETC1CM-227	E CAPACITOR
	C409	QFN31HJ-102	M CAPACITOR
	C410	QFN31HJ-102	M CAPACITOR
	C411	QFN31HJ-682	M CAPACITOR
	C412	QFN31HJ-682	M CAPACITOR
	C413	QFN31HJ-682	M CAPACITOR
	C414	QFN31HJ-682	M CAPACITOR
	C417	QFP32AJ-223	PP CAPACITOR
	C418	QFP32AJ-223	PP CAPACITOR
	C421	QETC0JM-107	E CAPACITOR
	C422	QETC0JM-107	E CAPACITOR
	C425	QFN31HJ-682	M CAPACITOR
	C426	QFN31HJ-682	M CAPACITOR
	C427	QFN31HJ-682	M CAPACITOR
	C428	QFN31HJ-682	M CAPACITOR
	C431	QCBB1HJ-151	CAPACITOR
	C432	QCBB1HJ-151	CAPACITOR
	C433	QCS32HJ-561	CAPACITOR
	C434	QCS32HJ-561	CAPACITOR
	C435	QETC1CM-476	E CAPACITOR
	C436	QETC1CM-476	E CAPACITOR
	C437	QETC1CM-476	E CAPACITOR
	C438	QETC1CM-476	E CAPACITOR
	C439	QETC1CM-476	E CAPACITOR
	C440	QCVB1CM-103	CAPACITOR
	C441	QETC1CM-476	E CAPACITOR
	C442	QETC1CM-476	E CAPACITOR
	C444	QETC1CM-476	E CAPACITOR
	C445	QCVB1CM-103	CAPACITOR
	C446	QCVB1CM-103	CAPACITOR
	C447	QETC1CM-476	E CAPACITOR
	C453	QFN31HJ-473	M CAPACITOR
	C454	QFN31HJ-473	M CAPACITOR
	C455	QFN31HJ-473	M CAPACITOR
	C456	QFN31HJ-473	M CAPACITOR
	C457	QETC1CM-476	E CAPACITOR
	C458	QETC1CM-476	E CAPACITOR
⚠	L401	PU53607-152	COIL
⚠	L402	PU53607-152	COIL
⚠	L403	PU53607-152	COIL
⚠	L404	PU53607-152	COIL
⚠	L405	PU30771-9	COIL
⚠	TH1	ERT-D2FGL301S	THERMISTOR
⚠	TH2	ERT-D2FGL301S	THERMISTOR
⚠	TH3	ERT-D2FHL102S	THERMISTOR
⚠	TH4	ERT-D2FHL102S	THERMISTOR
	T401	PGZ00804	TRANS
	T402	PGZ00804	TRANS
	T403	PGZ00699	TRANS
	T404	PGZ00699	TRANS
	SLD1	PRD30259	SHIELD CASE
	SLD2	PRD30260	SHIELD CASE
	TP401	PU54983	TEST PIN, X2
	CN4	PU58844-4R	CAP HOUSING
	CN401	PU58844-2	CAP HOUSING
	CN403	PU58844-2	CAP HOUSING
	CN404	PU58844-6	CAP HOUSING
	CN408	PU58844-2	CAP HOUSING

6.2.8 NORMAL AUDIO BOARD ASSEMBLY <08>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20149C-03	NORMAL AUDIO B.AY,BR-S811E
		PGE20149D-03	NORMAL AUDIO B.AY,BR-S611E
	IC1	AN6394	IC
	IC2	AN6394	IC
	IC3	TA7629P	IC
	IC4	TA7629P	IC
	IC5	MN4094BS	IC
	IC6	DT5C124E	IC
	IC7	DT5C124E	IC
	IC8	DT5A124E	IC
	IC9	DT5C124E	IC
	IC10	DT5C124E	IC
⚠	IC11	TA78L009AP	IC
⚠	IC12	TA78L009AP	IC
	Q5	2SC2412K(RS)	TRANSISTOR
	Q6	2SC2412K(RS)	TRANSISTOR
	Q9	2SC2412K(RS)	TRANSISTOR
	Q10	2SC2412K(RS)	TRANSISTOR,BR-S811E
	Q13	2SD973AR	TRANSISTOR
	Q14	2SD973AR	TRANSISTOR
	Q15	2SC2412KL(SE)	TRANSISTOR
	Q16	2SC2412KL(SE)	TRANSISTOR
	Q17	2SC2412KL(SE)	TRANSISTOR
	Q18	2SC2412KL(SE)	TRANSISTOR
	Q23	2SD973AR	TRANSISTOR
	Q24	2SD973AR	TRANSISTOR
	Q25	2SD973AR	TRANSISTOR
	Q26	2SD973AR	TRANSISTOR
	Q27	DTA114ES	TRANSISTOR
	Q28	DTA114EK	TRANSISTOR
	Q37	DTA124EK	TRANSISTOR
	Q38	DTA124EK	TRANSISTOR
	Q39	DTA124EK	TRANSISTOR
	Q40	DTA124EK	TRANSISTOR
	Q49	DTA114EK	TRANSISTOR
	Q50	DTA114EK	TRANSISTOR
	Q51	2SB1030R,S	TRANSISTOR
	Q52	2SB1030R,S	TRANSISTOR
	Q54	DTC124EK	TRANSISTOR
	Q55	DTA114EK	TRANSISTOR
	Q56	DTA114EK	TRANSISTOR
	Q58	DTC124EK	TRANSISTOR
	Q61	DTC124ES	TRANSISTOR
	Q62	DTA124ES	TRANSISTOR
	Q63	2SB1030R,S	TRANSISTOR
	Q64	DTA124ES	TRANSISTOR
	Q65	DTC124ES	TRANSISTOR
	Q66	DTC124ES	TRANSISTOR
	Q67	2SD973AR	TRANSISTOR
	Q68	2SD973AR	TRANSISTOR
	Q69	2SD1423(RS)	TRANSISTOR
	Q71	2SC2412KL(SE)	TRANSISTOR
	Q72	2SC2412KL(SE)	TRANSISTOR,BR-S811E
	Q75	2SD973AR	TRANSISTOR
	Q76	2SD973AR	TRANSISTOR
	Q77	2SD1423(RS)	TRANSISTOR
	Q79	DTA124EK	TRANSISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q80	DTA124EK	TRANSISTOR
	Q251	DTC124EK	TRANSISTOR
	Q252	DTA124ES	TRANSISTOR
	Q253	2SA1309R,S	TRANSISTOR
	D1	1SS133	DIODE
	D3	1SS133	DIODE
	D4	1SS133	DIODE
	D5	1SS133	DIODE
	D6	1SS133	DIODE
	D7	MA3075(M)	ZENER DIODE
	D8	MA3075(M)	ZENER DIODE
	D201	1SS133	DIODE
	D253	1SS133	DIODE
	R3	QVZ3514-222	V RESISTOR
	R4	QVZ3514-222	V RESISTOR
	R5	QRD161J-822	RESISTOR
	R6	QRD161J-822	RESISTOR
	R7	QRD161J-562	RESISTOR
	R8	QRD161J-562	RESISTOR
	R9	QRD161J-332	RESISTOR
	R10	QRD161J-332	RESISTOR
	R11	QRD161J-102	RESISTOR
	R12	QRD161J-102	RESISTOR
	R15	QRSA08J-0R0Y	RESISTOR
	R16	QRSA08J-0R0Y	RESISTOR
	R21	QRSA08J-471YN	RESISTOR
	R22	QRSA08J-471YN	RESISTOR
	R23	QRD161J-393	RESISTOR
	R24	QRD161J-393	RESISTOR
	R25	QRSA08J-821YN	RESISTOR
	R26	QRSA08J-821YN	RESISTOR
	R27	QVZ3514-152	V RESISTOR
	R28	QVZ3514-152	V RESISTOR
	R29	QRSA08J-102YN	RESISTOR
	R30	QRSA08J-102YN	RESISTOR
	R31	QVZ3514-103	V RESISTOR
	R32	QVZ3514-103	V RESISTOR
	R33	QRSA08J-102YN	RESISTOR
	R34	QRSA08J-102YN	RESISTOR
	R35	QRSA08J-103YN	RESISTOR
	R36	QRSA08J-103YN	RESISTOR
	R39	QRSA08J-332YN	RESISTOR
	R40	QRSA08J-332YN	RESISTOR
	R43	QRSA08J-104YN	RESISTOR
	R44	QRSA08J-104YN	RESISTOR
	R45	QRSA08J-390YN	RESISTOR
	R46	QRSA08J-390YN	RESISTOR
	R47	QRD161J-223	RESISTOR
	R48	QRD161J-223	RESISTOR
	R49	QRSA08J-103YN	RESISTOR
	R50	QRSA08J-103YN	RESISTOR
⚠	R53	QRZ0054-470	FUSIBLE RESISTOR
⚠	R54	QRZ0054-470	FUSIBLE RESISTOR
	R55	QRD161J-183	RESISTOR
	R56	QRD161J-183	RESISTOR
	R57	QRD161J-332	RESISTOR
	R58	QRD161J-332	RESISTOR
	R63	QRSA08J-103YN	RESISTOR
	R64	QRSA08J-103YN	RESISTOR,BR-S811E
	R71	QRSA08J-563YN	RESISTOR
	R72	QRSA08J-563YN	RESISTOR
	R73	QRSA08J-102YN	RESISTOR

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R74	QRSA08J-102YN	RESISTOR
	R75	QRSA08J-393YN	RESISTOR
	R76	QRSA08J-393YN	RESISTOR
	R77	QRSA08J-222YN	RESISTOR
	R78	QRSA08J-222YN	RESISTOR
	R79	QRSA08J-221YN	RESISTOR
	R80	QRSA08J-221YN	RESISTOR
	R81	QRSA08J-123YN	RESISTOR
	R82	QRSA08J-123YN	RESISTOR
	R83	QRSA08J-222YN	RESISTOR
	R84	QRSA08J-222YN	RESISTOR
	R85	QRSA08J-221YN	RESISTOR
	R86	QRSA08J-221YN	RESISTOR
	R89	QRSA08J-823YN	RESISTOR
	R90	QRSA08J-823YN	RESISTOR,BR-S811E
	R91	QRSA08J-223YN	RESISTOR
	R92	QRSA08J-223YN	RESISTOR,BR-S811E
	R97	QRSA08J-473YN	RESISTOR
	R98	QRSA08J-473YN	RESISTOR
	R99	QVZ3513-103	V RESISTOR
	R100	QVZ3513-103	V RESISTOR
	R103	QRD161J-103	RESISTOR
	R105	QRSA08J-472YN	RESISTOR
	R106	QRSA08J-472YN	RESISTOR
	R107	QRSA08J-152YN	RESISTOR
	R108	QRSA08J-152YN	RESISTOR
	R113	QRD161J-154	RESISTOR
	R114	QRD161J-154	RESISTOR
	R115	QRD161J-274	RESISTOR
	R116	QRD161J-274	RESISTOR
	R117	QRV141F-3301AY	CMF RESISTOR
	R118	QRV141F-3301AY	CMF RESISTOR
	R119	QRD161J-104	RESISTOR
	R120	QRD161J-104	RESISTOR
	R121	QRD161J-562	RESISTOR
	R122	QRD161J-562	RESISTOR
	R123	QRD161J-273	RESISTOR
	R124	QRD161J-273	RESISTOR
	R125	QRD161J-473	RESISTOR
	R126	QRD161J-473	RESISTOR
	R127	QRD161J-103	RESISTOR
	R128	QRD161J-103	RESISTOR
	R129	QRD161J-102	RESISTOR
	R130	QRD161J-102	RESISTOR
	R131	QRD161J-181	RESISTOR
	R132	QRD161J-181	RESISTOR
	R133	QRSA08J-103YN	RESISTOR
	R134	QRSA08J-103YN	RESISTOR
	R135	QRSA08J-103YN	RESISTOR
	R136	QRSA08J-103YN	RESISTOR
	R141	QRSA08J-103YN	RESISTOR
	R142	QRSA08J-103YN	RESISTOR
	R151	QRSA08J-222YN	RESISTOR
	R152	QRSA08J-222YN	RESISTOR
	R157	QRD161J-103	RESISTOR
	R158	QRD161J-103	RESISTOR
	R163	QRSA08J-102YN	RESISTOR
	R164	QRSA08J-102YN	RESISTOR,BR-S811E
	R165	QRD161J-561	RESISTOR
	R166	QRD161J-561	RESISTOR
	R167	QRD161J-561	RESISTOR
	R168	QRD161J-561	RESISTOR
	R177	QRSA08J-391YN	RESISTOR
	R178	QRSA08J-391YN	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R184	QRD161J-102	RESISTOR
	R186	QRD161J-681	RESISTOR
	R187	QRD161J-103	RESISTOR
	R188	QRD161J-103	RESISTOR
	R189	QRSA08J-103YN	RESISTOR
	R190	QRSA08J-103YN	RESISTOR
	R191	QRSA08J-103YN	RESISTOR
	R192	QRSA08J-103YN	RESISTOR
	R193	QRD161J-102	RESISTOR
	R194	QRD161J-102	RESISTOR
	R195	QRD161J-103	RESISTOR
	R197	QRSA08J-0R0Y	RESISTOR
	R198	QRSA08J-0R0Y	RESISTOR
	R201	QRD161J-102	RESISTOR
	R202	QRD161J-102	RESISTOR
	R203	QRD161J-102	RESISTOR
	R204	QRD161J-224	RESISTOR
	R205	QRD161J-224	RESISTOR
	R206	QRD161J-224	RESISTOR
	R207	QRD161J-103	RESISTOR
	R208	QRD161J-102	RESISTOR
	R251	QRSA08J-103YN	RESISTOR
	R265	QRSA08J-105YN	RESISTOR
	R266	QRSA08J-105YN	RESISTOR,BR-S811E
	R267	QRSA08J-472YN	RESISTOR
	R268	QRSA08J-472YN	RESISTOR
	R269	QRSA08J-152YN	RESISTOR
	R270	QRSA08J-152YN	RESISTOR
	R271	QRSA08J-103YN	RESISTOR
	R272	QRSA08J-103YN	RESISTOR,BR-S811E
	R275	QRD161J-102	RESISTOR
	R277	QRSA08J-103YN	RESISTOR
	R278	QRSA08J-103YN	RESISTOR
	C1	QETC1CM-336	E CAPACITOR
	C2	QETC1CM-336	E CAPACITOR
	C3	QETC1EM-335	E CAPACITOR
	C4	QETC1EM-335	E CAPACITOR
	C5	QETC1EM-335	E CAPACITOR
	C6	QETC1EM-335	E CAPACITOR
	C7	QEB61CM-106	LL CAPACITOR
	C8	QEB61CM-106	LL CAPACITOR
	C11	QCBB1HJ-101	CAPACITOR
	C12	QCBB1HJ-101	CAPACITOR
	C13	QEB61HM-105	E CAPACITOR
	C14	QEB61HM-105	E CAPACITOR
	C15	QETC1EM-335	E CAPACITOR
	C16	QETC1EM-335	E CAPACITOR
	C17	QETC1CM-106	E CAPACITOR
	C18	QETC1CM-106	E CAPACITOR
	C19	QETC1CM-106	E CAPACITOR
	C20	QETC1CM-106	E CAPACITOR
	C21	QETC0JM-107	E CAPACITOR
	C22	QETC0JM-107	E CAPACITOR
	C23	QFN31HJ-103	M CAPACITOR
	C24	QFN31HJ-103	M CAPACITOR
	C25	QFV41HJ-684	TF CAPACITOR
	C26	QFV41HJ-684	TF CAPACITOR
	C27	QEB61HM-334	LL CAPACITOR
	C28	QEB61HM-334	LL CAPACITOR
	C29	QEB61HM-104	E CAPACITOR
	C30	QEB61HM-104	E CAPACITOR
	C31	QEN61CM-106	NP E CAPACITOR
	C32	QEN61CM-106	NP E CAPACITOR
	C33	QFN31HJ-473	M CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C34	QFN31HJ-473	M CAPACITOR
	C35	QFN31HJ-472	M CAPACITOR
	C36	QFN31HJ-472	M CAPACITOR
	C37	QFN31HJ-122	M CAPACITOR
	C38	QFN31HJ-122	M CAPACITOR
	C39	QETC1CM-106	E CAPACITOR
	C40	QETC1CM-106	E CAPACITOR
	C41	QFP32AF-472M	PP CAPACITOR
	C42	QFP32AF-472M	PP CAPACITOR
	C43	QEB61CM-106	LL CAPACITOR
	C44	QEB61CM-106	LL CAPACITOR
	C45	QFN31HJ-823	M CAPACITOR
	C46	QFN31HJ-823	M CAPACITOR
	C47	QFN31HJ-183	M CAPACITOR
	C48	QFN31HJ-183	M CAPACITOR
	C49	QETC1CM-106	E CAPACITOR
	C50	QETC1CM-106	E CAPACITOR
	C51	QEB61CM-106	LL CAPACITOR
	C52	QEB61CM-106	LL CAPACITOR
	C53	QEB61CM-106	LL CAPACITOR
	C54	QEB61CM-106	LL CAPACITOR
	C59	QETC1CM-106	E CAPACITOR
	C60	QETC1CM-106	E CAPACITOR
	C63	QFN31HJ-333	M CAPACITOR
	C64	QFN31HJ-333	M CAPACITOR
	C65	QEB61CM-106	LL CAPACITOR
	C66	QEB61CM-106	LL CAPACITOR
	C67	QFP32AJ-561	PP CAPACITOR
	C68	QFP32AJ-561	PP CAPACITOR
	C69	QETC1CM-337	E CAPACITOR
	C70	QETC1CM-337	E CAPACITOR
	C71	QETC1CM-337	E CAPACITOR
	C72	QETC1CM-337	E CAPACITOR
	C73	QFP32AF-273M	PP CAPACITOR
	C74	QFP32AF-273M	PP CAPACITOR
	C75	QETC1EM-335	E CAPACITOR
	C76	QETC1EM-335	E CAPACITOR
	C77	QFP32AF-562M	PP CAPACITOR
	C78	QFP32AF-562M	PP CAPACITOR
	C79	QEN61CM-106	NP E CAPACITOR
	C80	QEN61CM-106	NP E CAPACITOR
	C81	QFN31HJ-122	M CAPACITOR
	C82	QFN31HJ-122	M CAPACITOR
	C83	QETC1CM-476	E CAPACITOR
	C84	QETC1CM-476	E CAPACITOR
	C85	QEB41HM-105	E CAPACITOR
	C86	QEB41HM-105	E CAPACITOR
	C89	QETA1CM-476	E CAPACITOR
	C90	QETA1CM-476	E CAPACITOR
	C91	QCBB1HJ-681	CAPACITOR
	C92	QCBB1HJ-681	CAPACITOR
	C95	QFN41HJ-103	M CAPACITOR
	C96	QFN41HJ-103	M CAPACITOR
	C97	QEB41HM-474	E CAPACITOR
	C98	QEB41HM-474	E CAPACITOR,BR-S811E
	C99	QFN31HJ-182	M CAPACITOR
	C100	QFN31HJ-182	M CAPACITOR,BR-S811E
	C101	QFN31HJ-102	M CAPACITOR
	C102	QFN31HJ-102	M CAPACITOR
	C103	QETA1CM-226	E CAPACITOR
	C104	QETA1CM-226	E CAPACITOR
	C105	QETA1CM-226	E CAPACITOR
	C106	QETA1CM-226	E CAPACITOR
	C109	QETA1AM-108	E CAPACITOR
	C110	QETA1AM-108	E CAPACITOR
	C111	QEB61CM-106	LL CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C112	QEB61CM-106	LL CAPACITOR
	C119	QETC1EM-227	E CAPACITOR
	C120	QETC1EM-227	E CAPACITOR
	C125	QETC1CM-337	E CAPACITOR
	C126	QETC1CM-337	E CAPACITOR
	C127	QETC1CM-337	E CAPACITOR
	C128	QETC1CM-337	E CAPACITOR
	C201	QETC1CM-336	E CAPACITOR
	C202	QCVB1CM-103	CAPACITOR
	C203	QETC1CM-476	E CAPACITOR
	C204	QETC1CM-476	E CAPACITOR
	C205	QCVB1CM-103	CAPACITOR
	C206	QCTA1CH-121	CAPACITOR
	C207	QCTA1CH-121	CAPACITOR
	C208	QCTA1CH-121	CAPACITOR
	C251	QETC1CM-476	E CAPACITOR
	C252	QETC0JM-477	E CAPACITOR
	C261	QETA1CM-476	E CAPACITOR
	C262	QETA1CM-476	E CAPACITOR,BR-S811E
	C265	QETA1HM-104	E CAPACITOR
	C266	QETA1HM-104	E CAPACITOR,BR-S811E
	C269	QCS11HJ-680	CAPACITOR
	C270	QCS11HJ-680	CAPACITOR
	C271	QCFA1EZ-104	CAPACITOR
	C272	QCFA1EZ-104	CAPACITOR
	C273	QCS11HJ-270	CAPACITOR
	C274	QCS11HJ-270	CAPACITOR
	L5	PGZ00121-472	COIL
	L6	PGZ00121-472	COIL
	L7	PGZ00917-822	COIL
	L8	PGZ00917-822	COIL
	L201	PU48530-471J	COIL
	LPF1	PGZ01056	LOW PASS FILTER
	LPF2	PGZ01056	LOW PASS FILTER
	RY1	PGZ00430	RELAY
	TP1	PU54983	TEST PIN, X6
	CN1	PU58844-2	CAP HOUSING
	CN2	PU58844-2R	CAP HOUSING
	CN3	PU58844-3	CAP HOUSING
	CN4	PU58844-3Y	CAP HOUSING
	CN10	PGZ00421-100	MALE CONNECTOR

-AUDIO TIMING MODULE-

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE30162A	AUDIO TIMING BOARD ASSY
	IC1	UPD7564G-526	IC
	IC2	MN4094BS	IC
	IC3	MN4094BS	IC
	D1	IMN10	DIODE
	R1	QRSA08J-473YN	RESISTOR
	R2	QRSA08J-473YN	RESISTOR
	R3	QRSA08J-473YN	RESISTOR
	R4	QRSA08J-473YN	RESISTOR
	R5	QRSA08J-102YN	RESISTOR
	R6	QRSA08J-102YN	RESISTOR
	R7	QRSA08J-102YN	RESISTOR
	R8	QRSA08J-102YN	RESISTOR
	R9	QRSA08J-473YN	RESISTOR
	R12	QRSA08J-473YN	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R13	QRSA08J-102YN	RESISTOR
	R14	QRSA08J-102YN	RESISTOR
	R15	QRSA08J-102YN	RESISTOR
	R16	QRSA08J-103YN	RESISTOR
	R17	QRSA08J-103YN	RESISTOR
	R18	QRSA08J-103YN	RESISTOR
	R19	QRSA08J-103YN	RESISTOR
	R20	QRSA08J-103YN	RESISTOR
	R21	QRSA08J-103YN	RESISTOR
	R22	QRSA08J-102YN	RESISTOR
	R23	QRSA08J-102YN	RESISTOR
	R24	QRSA08J-102YN	RESISTOR
	R25	QRSA08J-102YN	RESISTOR
	R26	QRSA08J-102YN	RESISTOR
	R27	QRSA08J-102YN	RESISTOR
	R28	QRSA08J-102YN	RESISTOR
	R29	QRSA08J-102YN	RESISTOR
	R30	QRSA08J-103YN	RESISTOR
	R31	QRSA08J-103YN	RESISTOR
	R32	QRSA08J-102YN	RESISTOR
	R33	QRSA08J-102YN	RESISTOR
	R34	QRSA08J-102YN	RESISTOR
	R35	QRSA08J-102YN	RESISTOR
	R36	QRSA08J-102YN	RESISTOR
	R37	QRSA08J-102YN	RESISTOR
	R38	QRSA08J-102YN	RESISTOR
	R39	QRSA08J-102YN	RESISTOR
	R40	QRSA08J-102YN	RESISTOR
	R41	QRSA08J-102YN	RESISTOR
	R42	QRSA08J-474YN	RESISTOR
	C1	QCTA1CH-101	CAPACITOR
	C2	QCTA1CH-101	CAPACITOR
	C3	QEF80JM-225	TANTAL CAPACITOR
	C4	QCFA1EZ-104	CAPACITOR
	C6	QEF81AM-105	TANTAL CAPACITOR
⚠	X1	PGZ00825-02	CRYSTAL RESONATOR
	CN1	PGZ01081-10	MICRO HEADER
	CN2	PGZ01081-09	MICRO HEADER
	CN3	PGZ01081-09	MICRO HEADER

-TIME CODE MODULE-

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE30138B	TIME CODE BOARD ASSY
	IC1	BA10339F	IC
	IC2	AN360	IC
	Q1	2SC2412KL(E)	TRANSISTOR
	Q2	2SC2412K(RS)	TRANSISTOR
	Q3	2SC2412K(RS)	TRANSISTOR
	Q4	2SC2412KL(E)	TRANSISTOR
	Q5	2SC2412K(RS)	TRANSISTOR
	Q6	2SC2412K(RS)	TRANSISTOR
	Q7	2SC2412K(RS)	TRANSISTOR
	Q8	2SC2412K(RS)	TRANSISTOR
	Q9	DTC124EK	TRANSISTOR
	Q10	DTC124EK	TRANSISTOR
	Q11	DTC124EK	TRANSISTOR
	Q12	DTA124EK	TRANSISTOR
	Q13	DTA124EK	TRANSISTOR
	Q14	DTA124EK	TRANSISTOR
	DA1	DAN202K	DIODE ARRAY
	DA2	DAN202K	DIODE ARRAY
	R1	QRSA08J-103YN	RESISTOR
	R2	QRSA08J-564YN	RESISTOR
	R3	QRSA08J-103YN	RESISTOR
	R4	QRSA08J-103YN	RESISTOR
	R5	QRSA08J-223YN	RESISTOR
	R6	QRSA08J-223YN	RESISTOR
	R7	QRSA08J-103YN	RESISTOR
	R8	QRSA08J-332YN	RESISTOR
	R9	QRSA08J-105YN	RESISTOR
	R10	QRSA08J-105YN	RESISTOR
	R11	QRSA08J-104YN	RESISTOR
	R12	QRSA08J-333YN	RESISTOR
	R13	QRSA08J-102YN	RESISTOR
	R14	QRSA08J-474YN	RESISTOR
	R15	QRSA08J-223YN	RESISTOR
	R16	QRSA08J-563YN	RESISTOR
	R17	QRSA08J-332YN	RESISTOR
	R18	QRSA08J-562YN	RESISTOR
	R19	QRSA08J-332YN	RESISTOR
	R20	QRSA08J-202YN	RESISTOR
	R21	QRD167J-821	RESISTOR
	R22	QRSA08J-560YN	RESISTOR
	R23	QRSA08J-103YN	RESISTOR
	R24	QRSA08J-102YN	RESISTOR
	R25	QRSA08J-223YN	RESISTOR
	R26	QRSA08J-223YN	RESISTOR
	R27	QRSA08J-103YN	RESISTOR
	R28	QRSA08J-223YN	RESISTOR
	R29	QRSA08J-822YN	RESISTOR
	R30	QRSA08J-822YN	RESISTOR
	R31	QRSA08J-562YN	RESISTOR
	R32	QRSA08J-103YN	RESISTOR
	R33	QRSA08J-562YN	RESISTOR
	R34	QRSA08J-103YN	RESISTOR
	R35	QRSA08J-103YN	RESISTOR
	R36	QRD167J-560	RESISTOR
	R37	QRD167J-121	RESISTOR
	R38	QRSA08J-563YN	RESISTOR
	R39	QRSA08J-472YN	RESISTOR
	R40	QRSA08J-332YN	RESISTOR
	R41	QRSA08J-332YN	RESISTOR
	R42	QRSA08J-822YN	RESISTOR
	R43	QRSA08J-103YN	RESISTOR
	R44	QRD167J-102	RESISTOR
	R45	QRD161J-122	RESISTOR
	C1	QEK41HM-334	E CAPACITOR
	C2	QEK41CM-107	E CAPACITOR
	C3	QCYA1HK-561	CAPACITOR
	C4	QER41EM-475	E CAPACITOR
	C5	QEK41CM-107	E CAPACITOR
	C6	QEPA1HM-105	NP E CAPACITOR
	C7	QEPA1HM-105	NP E CAPACITOR
	C8	QER41CM-336	E CAPACITOR
	C9	QEK41HM-105	E CAPACITOR
	C10	QFN41HJ-822	M CAPACITOR
	C11	QER41HM-105	E CAPACITOR
	C12	QCTA1CH-330	CAPACITOR
	C14	QER41CM-336	E CAPACITOR
	C15	QER41CM-336	E CAPACITOR
	C16	QEK41CM-107	E CAPACITOR
	C17	QEK41CM-107	E CAPACITOR
	L1	PU53607-152	COIL
	L2	PU53607-152	COIL
	CN1	PGZ01081-05	MICRO HEADER
	CN2	PGZ01081-05	MICRO HEADER
	CN3	PGZ01081-10	MICRO HEADER

-TRAP BOARD ASSY(BR-S811E ONLY)-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWB	PGE40292	
	C1	QCS11HJ-391	
	L1	PU30771-2	
	CN1	PGZ01081-06	

* * *

6.2.9 VIDEO ERASE/FM AUDIO PREAMP B.ASSY <09>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20152C-07	ERASE/PREAMP B.AY,BR-S811E
		PGE20152D-07	ERASE/PREAMP B.AY,BR-S611E

-VIDEO ERASE SECTION(BR-S811E ONLY)-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q1	2SC1740S(S)	TRANSISTOR
	Q2	2SC1740S(S)	TRANSISTOR
	Q3	2SC1740S(S)	TRANSISTOR
	Q4	2SC1740S(S)	TRANSISTOR
	Q5	2SC1740S(S)	TRANSISTOR
	Q6	2SC1740S(S)	TRANSISTOR
	Q7	2SC1740S(S)	TRANSISTOR
	Q8	2SC1317(RS)	TRANSISTOR
	Q9	2SA719R,S	TRANSISTOR
	Q10	2SC1740S(S)	TRANSISTOR
	Q11	2SC1740S(S)	TRANSISTOR
	Q12	2SC1740S(S)	TRANSISTOR
	Q13	2SC1740S(S)	TRANSISTOR
	Q14	2SC1317(RS)	TRANSISTOR
	Q15	2SA719R,S	TRANSISTOR
	Q16	DTA124ES	TRANSISTOR
	Q17	DTA124ES	TRANSISTOR
	Q25	DTA124ES	TRANSISTOR
	Q26	DTA124ES	TRANSISTOR
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	R1	QRD161J-103	RESISTOR
	R2	QRD161J-273	RESISTOR
	R3	QRD161J-101	RESISTOR
	R4	QRD161J-272	RESISTOR
	R5	QRD161J-681	RESISTOR
	R6	QRD161J-391	RESISTOR
	R7	QRD161J-102	RESISTOR
	R8	PU57457-103	V RESISTOR
	R9	PU57457-103	V RESISTOR
	R10	QRD161J-473	RESISTOR
	R11	QRD161J-473	RESISTOR
	R12	QRD161J-102	RESISTOR
	R13	QRD161J-102	RESISTOR
	R14	QRD161J-332	RESISTOR
	R15	QRD161J-103	RESISTOR
	R16	QRD161J-561	RESISTOR
	R17	QRD161J-100	RESISTOR
	R18	QRD161J-101	RESISTOR
	R19	QRD161J-4R7	RESISTOR
	R20	QRD161J-4R7	RESISTOR
	R21	QRD161J-4R7	RESISTOR
	R22	QRD161J-473	RESISTOR
	R23	QRD161J-473	RESISTOR
	R24	QRD161J-102	RESISTOR
	R25	QRD161J-102	RESISTOR
	R26	QRD161J-103	RESISTOR
	R27	QRD161J-332	RESISTOR
	R28	QRD161J-561	RESISTOR
	R29	QRD161J-100	RESISTOR
	R30	QRD161J-101	RESISTOR
	R31	QRD161J-4R7	RESISTOR
	R32	QRD161J-4R7	RESISTOR
	R33	QRD161J-4R7	RESISTOR
	R34	QRD161J-822	RESISTOR
	R35	QRD161J-822	RESISTOR
	R36	QRD161J-100	RESISTOR
	R37	QRD161J-223	RESISTOR
	R38	QRD161J-223	RESISTOR
	R39	QRD161J-102	RESISTOR
	R40	QRD161J-102	RESISTOR
	C1	QCF31HP-103	CAPACITOR
	C2	QETC1EM-107	E CAPACITOR
⚠	C3	QCS31HJ-100	CAPACITOR
⚠	C4	QCS31HJ-121	CAPACITOR
	C5	QCS31HJ-470	CAPACITOR
	C6	QCF31HP-103	CAPACITOR
	C7	QCF31HP-103	CAPACITOR
	C8	QFN31HJ-473	M CAPACITOR
	C9	QFN31HJ-102	M CAPACITOR
	C10	QETC1EM-107	E CAPACITOR
	C11	QCF31HP-103	CAPACITOR
	C12	QCF31HP-103	CAPACITOR
	C13	QFN31HJ-473	M CAPACITOR
	C14	QFN31HJ-102	M CAPACITOR
	C15	QCF31HP-103	CAPACITOR
	C16	QETC1EM-107	E CAPACITOR
	C17	QCF31HP-103	CAPACITOR
	C18	QETC1EM-107	E CAPACITOR
⚠	C19	QCS31HJ-121	CAPACITOR
	C49	QCF31HP-103	CAPACITOR
	C50	QCF31HP-103	CAPACITOR
	C51	QCF31HP-103	CAPACITOR
	C53	QCF31HP-103	CAPACITOR
	C54	QCF31HP-103	CAPACITOR
	L1	PU48530-471J	COIL
	L2	PU48530-471J	COIL
	L3	PU48530-471J	COIL
	L4	PU48530-330J	COIL
⚠	X1	PGZ00189	CRYSTAL RESONATOR
	SLD1	PRD30261	SHIELD CASE
	TP1	PU54983	TEST PIN
	TP2	PU56008	TEST-PIN
	CN1	PU58844-2R	CAP HOUSING
	CN2	PU58844-3	HOUSING
	CN3	PU58844-6R	CAP HOUSING
⚠	CP1	ICP-F10	CIRCUIT PROTECTOR

-FM AUDIO PREAMP SECTION-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	IC1	UPC1531HA	IC
	IC2	AN3920S	IC
	Q18	2SC1740S(S)	TRANSISTOR
	Q19	2SC1740S(S)	TRANSISTOR
	Q20	2SC1740S(S)	TRANSISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q21	2SC1740S(S)	TRANSISTOR
	Q22	2SC1740S(S)	TRANSISTOR
	Q23	2SC1740S(S)	TRANSISTOR
	Q24	DTC124ES	TRANSISTOR
	D5	1SS133	DIODE
	R41	QRD161J-102	RESISTOR
	R42	QRD161J-273	RESISTOR
	R43	QRD161J-273	RESISTOR
	R44	QRD161J-102	RESISTOR
	R45	QRD161J-102	RESISTOR
	R46	QRD161J-102	RESISTOR
	R47	QRD161J-102	RESISTOR
	R48	QRD161J-102	RESISTOR
	R49	QRD161J-332	RESISTOR
	R50	QRD161J-273	RESISTOR
	R51	QRD161J-473	RESISTOR
	R52	QRD161J-332	RESISTOR
	R53	QRD161J-271	RESISTOR
	R54	QRD161J-100	RESISTOR
	R55	QRD161J-100	RESISTOR
	R56	QRD161J-471	RESISTOR
	R57	QRD161J-471	RESISTOR
	R58	QRD161J-222	RESISTOR
	R59	QRD161J-393	RESISTOR
	R60	QRD161J-332	RESISTOR
	R61	QRD161J-153	RESISTOR
	R62	QRD161J-393	RESISTOR
	R63	QRD161J-153	RESISTOR
	R64	QRD161J-124	RESISTOR
	R65	QRD161J-273	RESISTOR
	R66	QRD161J-100	RESISTOR
	R67	QRD161J-273	RESISTOR
	R68	QRD161J-473	RESISTOR
	R72	QRD161J-100	RESISTOR
	R75	QRD161J-102	RESISTOR
	R76	QRD161J-153	RESISTOR
	R77	QRD161J-103	RESISTOR
	R80	PU57457-473	V RESISTOR
	R81	PU59499	BUS WIRE
	R82	QRD161J-0R0	RESISTOR
	R83	QRD161J-0R0	RESISTOR
	C20	QCF31HP-103	CAPACITOR
	C21	PU59499	BUS WIRE
	C22	QCF31HP-103	CAPACITOR
	C24	QCF31HP-103	CAPACITOR
	C25	QFN31HJ-682	M CAPACITOR
	C26	QCS31HJ-331	CAPACITOR
	C27	QCS31HJ-221	CAPACITOR
	C28	QCF31HP-103	CAPACITOR
	C29	QCF31HP-103	CAPACITOR
	C30	QCS31HJ-820	CAPACITOR
	C31	QCF31HP-103	CAPACITOR
	C32	QCF31HP-103	CAPACITOR
	C33	QCF31HP-103	CAPACITOR
	C34	QCF31HP-103	CAPACITOR
	C35	QCS31HJ-820	CAPACITOR
	C36	QCF31HP-103	CAPACITOR
	C37	QETC0JM-476	E CAPACITOR
	C38	QCF31HP-103	CAPACITOR
	C39	QETC1HM-105	E CAPACITOR
	C40	QETC0JM-476	E CAPACITOR
	C41	QETC1HM-105	E CAPACITOR
	C42	QCF31HP-103	CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C43	QCF31HP-103	CAPACITOR
	C44	QETC1HM-225	E CAPACITOR
	C45	QCF31HP-103	CAPACITOR
	C46	QETC1HM-104	E CAPACITOR
	C47	QCF31HP-103	CAPACITOR
	C48	QCF31HP-103	CAPACITOR
	C52	QCF31HP-103	CAPACITOR
	C56	QCF31HP-102	CAPACITOR
	C57	QCS11HJ-5R0	CAPACITOR
	C58	QCF31HP-103	CAPACITOR
	C59	QETC0JM-476	E CAPACITOR
	C60	QCF11HP-223	CAPACITOR
	L5	PU53607-152	COIL
	L6	PU48530-271J	COIL
	L7	PU48530-271J	COIL
	BPF1	PU56177-3	BAND PASS FILTER
	BPF2	PU56177-4	BAND PASS FILTER
⚠	K1	PGZ00354	FERRITE BEADS
⚠	K2	PGZ00354	FERRITE BEADS
	SLD2	PRD30257	SHIELD CASE
	SLD3	PRD42481	EDGE GUARD
		PRD42567	SHEET
	CN3	PU58844-6R	CAP HOUSING
	CN4	PU58844-6	CAP HOUSING
	CN5	PU58844-10	CAP HOUSING
	CN6	PU58844-2	CAP HOUSING
	CN7	PU58844-2Y	CAP HOUSING

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6.2.10 SERVO-1 BOARD ASSEMBLY <10>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE10070C-06	SERVO-1 BOARD ASSY,BR-S811E
		PGE10070D-06	SERVO-1 BOARD ASSY,BR-S611E
	IC1	M51490L	IC
	IC2	M51490L	IC
	IC3	MN4071BS	IC
	IC4	MN4069UBS	IC
	IC5	TC4S71F	IC
	IC6	BA6302AF	IC
	IC7	BA10358F	IC
	IC8	BA6302AF	IC
	IC9	MN4051BS	IC
	IC10	BA10358F	IC
	IC11	TC4S11F	IC
	IC12	MN4053BS	IC
	IC13	MN4053BS	IC
	IC14	MN4053BS	IC
	IC15	TC4S01F	IC
	IC16	BA6993F	IC
	IC17	TC4SU69F	IC
	IC18	TC4SU69F	IC
	IC19	M5278L05	IC
	Q1	FMG2	TRANSISTOR
	Q2	DTC144EK	TRANSISTOR
	Q3	FMG2	TRANSISTOR
	Q5	2SD601	TRANSISTOR
	Q6	DTA144EK	TRANSISTOR
	Q7	DTC144EK	TRANSISTOR
	Q8	DTC144EK	TRANSISTOR
	Q9	IMD2	TRANSISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q10	2SB709	TRANSISTOR
	Q12	DTC144EK	TRANSISTOR
	Q13	DTC144EK	TRANSISTOR
	Q14	DTC144EK	TRANSISTOR
	Q15	IMD2	TRANSISTOR
	Q16	FMG2	TRANSISTOR
	Q17	2SK621	FE TRANSISTOR
	Q19	2SK208(O)	FE TRANSISTOR
	Q20	FMG2	TRANSISTOR
	Q21	DTC144EK	TRANSISTOR
	Q22	FMG2	TRANSISTOR
	Q23	2SD601	TRANSISTOR
	Q24	2SD601	TRANSISTOR
	Q25	2SD601	TRANSISTOR
	Q26	DTC144EK	TRANSISTOR
	Q27	DTA144EK	TRANSISTOR
	Q28	2SB709	TRANSISTOR
	Q29	2SD601	TRANSISTOR
	Q30	DTC144EK	TRANSISTOR
	Q31	2SB709	TRANSISTOR
	Q32	2SB709	TRANSISTOR
	Q33	2SK621	FE TRANSISTOR
	D1	DAN202K	DIODE ARRAY
	D2	DAN202K	DIODE ARRAY
	D3	DAN202K	DIODE ARRAY
	D5	DAN202K	DIODE ARRAY
	D6	DAN202K	DIODE ARRAY
	D7	HZ5CLL	ZENER DIODE
	D8	HZ5CLL	ZENER DIODE
	D9	DAN202K	DIODE ARRAY
	D10	DAN202K	DIODE ARRAY
	D11	DAP202K	DIODE
	D12	1SS133	DIODE
	D13	DAN202K	DIODE ARRAY
	D14	1SS133	DIODE
	D15	1SS133	DIODE
	D16	W03C	ZENER DIODE
	DA1	MA157	DIODE
	DA3	DAN202K	DIODE ARRAY
	DA4	DAN202K	DIODE ARRAY
	DA5	DAP202K	DIODE
	DA6	DAN202K	DIODE ARRAY
	DA7	DAN202K	DIODE ARRAY
	DA8	DAP202K	DIODE
	DA9	DAN202K	DIODE ARRAY
	DA10	DAP202K	DIODE
	DA11	DAP202K	DIODE
	R1	QRSA08J-152YN	RESISTOR
	R2	QRSA08J-224YN	RESISTOR
	R3	QRSA08J-223YN	RESISTOR
	R4	QRSA08J-390YN	RESISTOR
	R5	QRSA08J-390YN	RESISTOR
	R6	QRSA08J-104YN	RESISTOR
	R7	QRSA08J-222YN	RESISTOR
	R8	QRSA08J-152YN	RESISTOR
	R9	QRSA08J-224YN	RESISTOR
	R10	QRSA08J-223YN	RESISTOR
	R11	QRSA08J-100YN	RESISTOR
	R12	QRD161J-103	RESISTOR
	R13	QRSA08J-472YN	RESISTOR
	R14	QRD161J-221	RESISTOR
	R15	QRSA08J-104YN	RESISTOR
	R16	QRSA08J-104YN	RESISTOR
	R17	QRSA08J-223YN	RESISTOR
	R18	QRSA08J-223YN	RESISTOR
	R19	QRSA08J-223YN	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R20	QRSA08J-223YN	RESISTOR
	R21	QRSA08J-223YN	RESISTOR
	R22	QRSA08J-223YN	RESISTOR
	R23	QRSA08J-224YN	RESISTOR
	R24	QRSA08J-103YN	RESISTOR
	R25	QRSA08J-103YN	RESISTOR
	R26	QRSA08J-103YN	RESISTOR
	R27	QRSA08J-123YN	RESISTOR
	R28	QRSA08J-102YN	RESISTOR
	R29	QRSA08J-102YN	RESISTOR
	R30	QRSA08J-103YN	RESISTOR
	R31	QRSA08J-100YN	RESISTOR
	R32	QRSA08J-100YN	RESISTOR
	R34	QRSA08J-102YN	RESISTOR
	R35	QRSA08J-103YN	RESISTOR
	R36	QRSA08J-102YN	RESISTOR
⚠	R37	ERT-D2FHL103S	THERMISTOR
	R38	QRSA08J-562YN	RESISTOR
	R39	QRSA08J-104YN	RESISTOR
	R40	QRSA08J-103YN	RESISTOR
	R41	QRSA08J-0R0Y	RESISTOR
	R42	QRD161J-153	RESISTOR
	R43	QRD161J-153	RESISTOR
	R62	QRD161J-681	RESISTOR
	R63	QRSA08J-102YN	RESISTOR
	R64	QRSA08J-474YN	RESISTOR
	R65	QRSA08J-102YN	RESISTOR
	R67	QVZ3513-473	V RESISTOR
	R68	QRSA08J-104YN	RESISTOR
	R69	QRSA08J-472YN	RESISTOR
	R70	QRD161J-103	RESISTOR
	R71	QRV143F-3573	CMF RESISTOR
	R72	QRV143F-3573	CMF RESISTOR
	R73	QRV143F-1783	CMF RESISTOR
	R74	QRSA08J-392YN	RESISTOR
	R75	QRSA08J-103YN	RESISTOR
	R76	QRSA08J-683YN	RESISTOR
	R77	QRSA08J-105YN	RESISTOR
	R78	QRSA08J-103YN	RESISTOR
	R79	QRSA08J-103YN	RESISTOR
	R80	QRSA08J-103YN	RESISTOR
	R81	QRSA08J-104YN	RESISTOR
	R82	QRSA08J-274YN	RESISTOR
	R83	QRD161J-221	RESISTOR
	R84	QRSA08J-103YN	RESISTOR
	R85	QRSA08J-103YN	RESISTOR
	R86	QRSA08J-823YN	RESISTOR
	R87	QRSA08J-123YN	RESISTOR
	R88	QVZ3513-222	V RESISTOR
	R89	QRSA08J-103YN	RESISTOR
	R90	QVZ3513-473	V RESISTOR
	R91	QVZ3513-224	V RESISTOR
	R92	QRSA08J-104YN	RESISTOR
	R93	QRSA08J-274YN	RESISTOR
	R94	QRSA08J-273YN	RESISTOR
	R95	QRSA08J-274YN	RESISTOR
	R96	QRSA08J-154YN	RESISTOR
	R97	QRSA08J-683YN	RESISTOR
	R98	QRSA08J-103YN	RESISTOR
	R99	QRSA08J-182YN	RESISTOR
	R101	QRSA08J-562YN	RESISTOR
	R102	QRSA08J-333YN	RESISTOR
	R103	QRSA08J-333YN	RESISTOR
	R104	QVZ3513-153	V RESISTOR
	R105	QRSA08J-683YN	RESISTOR
	R106	QRSA08J-103YN	RESISTOR

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R107	QRSA08J-103YN	RESISTOR
	R108	QRSA08J-103YN	RESISTOR
	R109	QRSA08J-104YN	RESISTOR
	R110	QRSA08J-123YN	RESISTOR
	R113	QRD161J-823	RESISTOR
	R114	QRD161J-333	RESISTOR
	R115	QRSA08J-154YN	RESISTOR
	R116	QRSA08J-104YN	RESISTOR
	R117	QRSA08J-103YN	RESISTOR
	R118	QRSA08J-103YN	RESISTOR
	R128	QRSA08J-102YN	RESISTOR
	R129	QRD163J-681	RESISTOR
	R131	QRSA08J-103YN	RESISTOR
	R134	QRSA08J-334YN	RESISTOR
	R135	QRSA08J-472YN	RESISTOR
	R136	QRSA08J-104YN	RESISTOR
	R137	QRSA08J-104YN	RESISTOR
	R140	QRSA08J-103YN	RESISTOR
	R141	QRSA08J-103YN	RESISTOR
	R142	QRSA08J-0R0Y	RESISTOR
	R143	QRSA08J-103YN	RESISTOR
	R144	QRSA08J-223YN	RESISTOR
	R145	QRD161J-223	RESISTOR
	R146	QRSA08J-472YN	RESISTOR
	R147	QVZ3513-333	V RESISTOR
	R148	QRSA08J-472YN	RESISTOR
	R149	QVZ3513-333	V RESISTOR
	R150	QRSA08J-103YN	RESISTOR
	R151	QRD161J-103	RESISTOR
	R152	QRSA08J-104YN	RESISTOR
	R153	QRD161J-105	RESISTOR
	R154	QRD161J-102	RESISTOR
	R155	QRSA08J-333YN	RESISTOR
	R156	QRSA08J-102YN	RESISTOR
	R201	QRSA08J-0R0Y	RESISTOR, X73
	C1	QETC1CM-476	E CAPACITOR
	C2	QCYA1HK-103	CAPACITOR
	C3	QETC1CM-476	E CAPACITOR
	C4	QCTA1CH-151	CAPACITOR
	C5	QFN31HJ-103	M CAPACITOR
	C6	QFV41HJ-474M	TF CAPACITOR
	C7	QETC1CM-476	E CAPACITOR
	C8	QETC1CM-476	E CAPACITOR
	C9	QCTA1CH-151	CAPACITOR
	C10	QFN31HJ-103	M CAPACITOR
	C11	QFV41HJ-474M	TF CAPACITOR
	C12	QETC0JM-476	E CAPACITOR
	C13	QCTA1CH-270	CAPACITOR
	C14	QCTA1CH-270	CAPACITOR
	C15	QETC0JM-476	E CAPACITOR
	C16	QCYA1HK-103	CAPACITOR
	C17	QCYA1HK-103	CAPACITOR
	C18	QCYA1HK-103	CAPACITOR
	C19	QETC1HM-105	E CAPACITOR
	C21	QFP42AF-822M	PP CAPACITOR
	C22	QFP42AF-822M	PP CAPACITOR
	C23	QFP42AF-183M	PP CAPACITOR
	C24	QFP42AF-183M	PP CAPACITOR
	C25	QER41CM-107	E CAPACITOR
	C26	QCF31HP-102	CAPACITOR
	C27	QETC0JM-476	E CAPACITOR
	C29	QCYA1HK-103	CAPACITOR
	C30	QETC0JM-226	E CAPACITOR
	C31	QER41CM-226	E CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C32	QCYA1HK-103	CAPACITOR
	C33	QER41CM-226	E CAPACITOR
	C34	QCYA1HK-103	CAPACITOR
	C35	QER41CM-226	E CAPACITOR
	C36	QCYA1HK-223	CAPACITOR
	C37	QER41EM-335	E CAPACITOR
	C38	QER40JM-476	E CAPACITOR
	C47	QCTA1CH-330	CAPACITOR
	C48	QFN31HJ-122	M CAPACITOR
	C49	QETC0JM-226	E CAPACITOR
	C50	QFN31HJ-104	M CAPACITOR
	C51	QETC0JM-476	E CAPACITOR
	C52	QCYA1HK-103	CAPACITOR
	C53	QFP42AF-123M	PP CAPACITOR
	C55	QFN31HJ-103	M CAPACITOR
	C56	QFP42AF-183M	PP CAPACITOR
	C57	QFP42AF-183M	PP CAPACITOR
	C58	QFP42AF-363M	PP CAPACITOR
	C59	QFN31HJ-823	M CAPACITOR
	C60	QEN61EM-475	NP E CAPACITOR
	C62	QETC1CM-106	E CAPACITOR
	C63	QCTA1CH-470	CAPACITOR
	C64	QCYA1HK-103	CAPACITOR
	C65	QETC1CM-476	E CAPACITOR
	C66	QFP42AF-822M	PP CAPACITOR
	C67	QFP42AF-822M	PP CAPACITOR
	C68	QFN31HJ-103	M CAPACITOR
	C69	QETA1CM-106	E CAPACITOR
	C70	QCYA1HK-273	CAPACITOR
	C72	QCYA1HK-103	CAPACITOR
	C73	QETC0JM-476	E CAPACITOR
	C77	QETC0JM-476	E CAPACITOR
	C78	QCYA1HK-103	CAPACITOR
	C81	QETC1HM-225	E CAPACITOR
	C82	QCYA1HK-103	CAPACITOR
	C83	QCFA1EZ-104	CAPACITOR
	C84	QCFA1EZ-104	CAPACITOR
	C85	QCTA1CH-101	CAPACITOR
	L1	PU48530-221J	COIL
	L2	PU48530-221J	COIL
	L3	PU48530-221J	COIL
	L4	PU48530-221J	COIL
	L6	PU48530-221J	COIL
	L7	PU48530-221J	COIL
	L8	PU48530-221J	COIL
	L9	PU48530-221J	COIL
	L11	PU48530-221J	COIL
⚠	CF1	PU56805	CRYSTAL
	TP1	PU54983	TEST PIN, X31
	CN1	PGZ00421-100	MALE CONNECTOR
	CN2	PGZ00757-112	CONNECTOR
	CN3	PGZ00757-112	CONNECTOR
	CN4	PGZ00757-112	CONNECTOR
	CN5	PGZ00803-10	MICRO HEADER
	CN6	PGZ00803-08	SOCKET
	CN7	PGZ00803-05	SOCKET
	CN8	PGZ00803-10	MICRO HEADER
	CN9	PGZ00803-05	SOCKET

-SYNC SYSTEM MODULE-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20163A1-01	SYNC SYSTEM MODULE, MOD1
	IC1	MN4069UBS	IC

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	IC2	MN4001BS	IC
	IC3	MN4071BS	IC
	IC4	TC4S81F	IC
	IC5	TC4S01F	IC
	IC6	TC4S01F	IC
	Q2	FMG2	TRANSISTOR
	Q3	FMG2	TRANSISTOR
	Q5	DTC144EK	TRANSISTOR
	Q6	IMX1	TRANSISTOR
	R1	QRSA08J-103YN	RESISTOR
	R2	QRSA08J-222YN	RESISTOR
	R3	QRSA08J-222YN	RESISTOR
	R4	QRSA08J-104YN	RESISTOR
	R5	QRSA08J-474YN	RESISTOR
	R6	QRSA08J-224YN	RESISTOR
	R7	QRSA08J-224YN	RESISTOR
	R8	QRSA08J-224YN	RESISTOR
	R9	QRSA08J-224YN	RESISTOR
	R10	QRSA08J-103YN	RESISTOR
	R11	QRSA08J-103YN	RESISTOR
	R12	QRSA08J-103YN	RESISTOR
	R13	QRSA08J-103YN	RESISTOR
	R14	QRSA08J-224YN	RESISTOR
	R15	QRSA08J-472YN	RESISTOR
	R16	QRSA08J-103YN	RESISTOR
	R17	QRSA08J-471YN	RESISTOR
	R18	QRSA08J-103YN	RESISTOR
	R19	QRSA08J-104YN	RESISTOR
	R20	QRSA08J-474YN	RESISTOR
	R21	QRSA08J-472YN	RESISTOR
	R22	QRSA08J-471YN	RESISTOR
	R24	QRSA08J-223YN	RESISTOR
	R25	QRSA08J-223YN	RESISTOR
	R26	QRSA08J-103YN	RESISTOR
	C1	QCTA1CH-151	CAPACITOR
	C2	QCTA1CH-470	CAPACITOR
	C3	QEF80JM-225	TANTAL CAPACITOR
	C4	QCTA1CH-151	CAPACITOR
	C5	QCTA1CH-470	CAPACITOR
	C6	QEF80JM-225	TANTAL CAPACITOR
	C7	QER40JM-476	E CAPACITOR
	C8	QCYA1HK-103	CAPACITOR
	C9	QCF81CZ-105	CAPACITOR
	C10	QCF81CZ-105	CAPACITOR
	L1	PGZ00637-221	COIL
	CN1	PGZ01081-07	MICRO HEADER
	CN2	PGZ01081-07	MICRO HEADER

-SERVO LOCK DETECT MODULE-

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20163A2	SERVO LOCK DETECT MODULE,MOD7
	IC1	BA10339F	IC
	IC2	TC4S81F	IC
	IC3	TC4SU69F	IC
	IC4	TC4SU69F	IC
	Q1	FMG2	TRANSISTOR
	D1	DAN202K	DIODE ARRAY
	D2	DAN202K	DIODE ARRAY
	R1	QRSA08J-471YN	RESISTOR
	R2	QRSA08J-471YN	RESISTOR
	R3	QRSA08J-471YN	RESISTOR
	R4	QRSA08J-222YN	RESISTOR
	R5	QRSA08J-474YN	RESISTOR
	R6	QRSA08J-474YN	RESISTOR
	R7	QRSA08J-222YN	RESISTOR
	R8	QRSA08J-103YN	RESISTOR
	R9	QRSA08J-123YN	RESISTOR
	R10	QRSA08J-103YN	RESISTOR
	R11	QRSA08J-153YN	RESISTOR
	R12	QRSA08J-123YN	RESISTOR
	R13	QRSA08J-273YN	RESISTOR
	R14	QRSA08J-103YN	RESISTOR
	R15	QRSA08J-153YN	RESISTOR
	C1	QER40JM-476	E CAPACITOR
	C2	QCYA1HK-103	CAPACITOR
	L1	PGZ00637-221	COIL
	CN1	PGZ01081-07	MICRO HEADER
	CN2	PGZ01081-05	MICRO HEADER

-F-V CONVERTER MODULE-

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20163B3-01	FV CONVERTER MODULE,MOD6
	IC1	MN4538BS	IC
	IC2	BA10324F	IC
	R1	QRSA08J-103YN	RESISTOR
	R2	QRSA08J-105YN	RESISTOR
	R3	QRSA08J-184YN	RESISTOR
	R4	QRSA08J-184YN	RESISTOR
	R5	QRSA08J-103YN	RESISTOR
	R6	QRSA08J-103YN	RESISTOR
	R7	QRSA08J-183YN	RESISTOR
	R8	QRSA08J-272YN	RESISTOR
	R9	PU55509-102	V RESISTOR
	R10	QRSA08J-472YN	RESISTOR
	R11	QRSA08J-562YN	RESISTOR
	R12	PU55509-222	V RESISTOR
	R13	QRSA08J-822YN	RESISTOR
	R14	QRSA08J-224YN	RESISTOR
	R15	QRSA08J-222YN	RESISTOR
	C1	QCYA1HK-103	CAPACITOR
	C2	QER40JM-476	E CAPACITOR
	C3	QCYA1HK-272	CAPACITOR
	C4	QCYA1HK-183	CAPACITOR
	C5	QCFA1EZ-104	CAPACITOR
	L1	PGZ00637-221	COIL
	CN1	PGZ01081-07	MICRO HEADER

-D-FF MODULE-

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20163A4	D-FF MODULE, MOD3
	IC1	HA11780MP	IC
	IC2	HA11780MP	IC
	DA1	DA204K	DIODE
	R2	QVZ3513-334	V RESISTOR
	R3	QVZ3513-334	V RESISTOR
	R5	QRSA08J-224YN	RESISTOR
	R6	QRSA08J-224YN	RESISTOR
	R7	QRSA08J-103YN	RESISTOR
	R8	QRSA08J-103YN	RESISTOR
	R9	QVZ3513-224	V RESISTOR
	R10	QRSA08J-474YN	RESISTOR
	R11	QVZ3513-224	V RESISTOR
	R12	QRSA08J-474YN	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R13	QRSA08J-104YN	RESISTOR
	R14	QRSA08J-103YN	RESISTOR
	R15	QRSA08J-103YN	RESISTOR
	C1	QCYA1HK-103	CAPACITOR
	C2	QER40JM-476	E CAPACITOR
	C3	QER41CM-106	E CAPACITOR
	C4	QER41CM-106	E CAPACITOR
	C5	QER40JM-226	E CAPACITOR
	L1	PGZ00637-221	COIL
	CN1	PGZ01081-08	MICRO HEADER
	CN2	PGZ01081-05	MICRO HEADER

-2H DELAY MODULE-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE30152B-02	2H DELAY MODULE,MOD2
	IC1	MN50005JVES	IC
	IC2	MN4053BS	IC
	IC3	MN74HC157S	IC
	IC4	UPD41101G	IC
	IC5	MN74HC74S	IC
	IC6	MN74HC14S	IC
	D1	DAN202K	DIODE ARRAY
	D2	MA28WA	DIODE ARRAY
	D3	RB400D	DIODE
	R1	QRSA08J-105YN	RESISTOR
	R4	QRSA08J-103YN	RESISTOR
	R5	QRSA08J-104YN	RESISTOR
	R6	QRSA08J-103YN	RESISTOR
	R7	QRSA08J-104YN	RESISTOR
	R8	QRSA08J-101YN	RESISTOR
	R9	QRSA08J-101YN	RESISTOR
	R10	QRSA08J-103YN	RESISTOR
	R11	QRSA08J-103YN	RESISTOR
	R12	QRSA08J-682YN	RESISTOR
	R13	QRSA08J-153YN	RESISTOR
	R14	QRSA08J-104YN	RESISTOR
	R15	QRSA08J-101YN	RESISTOR
	R16	QRSA08J-393YN	RESISTOR
	R17	QRSA08J-104YN	RESISTOR
	R18	QRSA08J-0R0Y	RESISTOR
	R20	QRSA08J-105YN	RESISTOR
	R21	QRSA08J-472YN	RESISTOR
	R22	QRSA08J-0R0Y	RESISTOR
	R24	QRSA08J-0R0Y	RESISTOR
	R25	QRSA08J-221YN	RESISTOR
	C1	QCYA1HK-103	CAPACITOR
	C7	QCYA1HK-102	CAPACITOR
	C8	QCYA1HK-152	CAPACITOR
	C9	QCYA1HK-561	CAPACITOR
	C10	QCTA1CH-100	CAPACITOR
	C11	QCTA1CH-100	CAPACITOR
	C12	QCFA1EZ-104	CAPACITOR
	C14	QCYA1HK-103	CAPACITOR
	C15	QCYA1HK-103	CAPACITOR
	C16	QCYA1HK-103	CAPACITOR
	C18	QCYA1HK-103	CAPACITOR
	X1	PGZ01007	CRYSTAL RESONATOR
	CN1	PGZ01081-06	MICRO HEADER
	CN2	PGZ01081-06	MICRO HEADER

-DUB SYSTEM MODULE-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20163A5	DUB SYSTEM MODULE, MOD4
	IC1	MN4053BS	IC
	IC2	MN4013BS	IC
	IC3	MN4001BS	IC
	Q1	IMX1	TRANSISTOR
	Q2	DTC144EU	TRANSISTOR
	Q3	IMX1	TRANSISTOR
	Q4	2SC4081(QR)	TRANSISTOR
	D1	DAN202K	DIODE ARRAY
	R1	QRSA08J-103YN	RESISTOR
	R2	QRSA08J-562YN	RESISTOR
	R3	QRSA08J-223YN	RESISTOR
	R4	QRSA08J-102YN	RESISTOR
	R5	QRSA08J-223YN	RESISTOR
	R6	QRSA08J-562YN	RESISTOR
	R7	QRSA08J-222YN	RESISTOR
	R8	QRSA08J-224YN	RESISTOR
	R9	QRSA08J-222YN	RESISTOR
	R10	QRSA08J-224YN	RESISTOR
	R11	QRSA08J-224YN	RESISTOR
	R12	QRSA08J-222YN	RESISTOR
	R13	QRSA08J-222YN	RESISTOR
	R14	QRSA08J-224YN	RESISTOR
	R15	QRSA08J-393YN	RESISTOR
	R16	QRSA08J-103YN	RESISTOR
	R17	QRSA08J-222YN	RESISTOR
	R18	QRSA08J-223YN	RESISTOR
	R19	QRSA08J-223YN	RESISTOR
	R20	QRSA08J-103YN	RESISTOR
	R23	QRSA08J-472YN	RESISTOR
	R24	QRSA08J-472YN	RESISTOR
	R25	QRSA08J-224YN	RESISTOR
	R26	QRSA08J-222YN	RESISTOR
	R27	QRSA08J-471YN	RESISTOR
	R28	QRSA08J-471YN	RESISTOR
	R29	QRSA08J-222YN	RESISTOR
	R30	QRSA08J-224YN	RESISTOR
	C1	QCYA1HK-103	CAPACITOR
	C2	QER40JM-476	E CAPACITOR
	C3	QEF81CM-105	TANTAL CAPACITOR
	C4	QCYA1HK-102	CAPACITOR
	L1	PGZ00637-221	COIL
	CN1	PGZ01081-09	MICRO HEADER
	CN2	PGZ01081-09	MICRO HEADER

-SEARCH COUNTER MODULE-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK20031A	SEARCH COUNTER MODULE, MOD8
	IC1	MN4021BS	IC
	IC2	UPD7564G-518	IC
	IC3	MN74HC163S	IC
	IC4	MN74HC163S	IC
	IC5	MN4053BS	IC
	IC7	MN4094BS	IC
	IC8	MN4094BS	IC
	IC9	TC4S69F	IC
	IC10	TC4S11F	IC
	D1	IMN10	DIODE
	D2	MA3062(M)	ZENER DIODE
	R1	QRSA08J-224YN	RESISTOR
	R2	QRSA08J-224YN	RESISTOR
	R3	QRSA08J-224YN	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R4	QRSA08J-102YN	RESISTOR
	R5	QRSA08J-102YN	RESISTOR
	R6	QRSA08J-102YN	RESISTOR
	R8	QRSA08J-224YN	RESISTOR
	R9	QRSA08J-224YN	RESISTOR
	R10	QRSA08J-102YN	RESISTOR
	R11	QRSA08J-102YN	RESISTOR
	R12	QRSA08J-102YN	RESISTOR
	R13	QRSA08J-102YN	RESISTOR
	R14	QRSA08J-224YN	RESISTOR
	R15	QRSA08J-224YN	RESISTOR
	R16	QRSA08J-224YN	RESISTOR
	R17	QRSA08J-224YN	RESISTOR
	R20	QRSA08J-102YN	RESISTOR
	R21	QRSA08J-102YN	RESISTOR
	R22	QRSA08J-103YN	RESISTOR
	R23	QRSA08J-103YN	RESISTOR
	R24	QRSA08J-103YN	RESISTOR
	R25	QRSA08J-103YN	RESISTOR
	R26	QRSA08J-473YN	RESISTOR
	R27	QRSA08J-103YN	RESISTOR
	R28	QRSA08J-102YN	RESISTOR
	R29	QRSA08J-102YN	RESISTOR
	R30	QRSA08J-102YN	RESISTOR
	R31	QRSA08J-102YN	RESISTOR
	R32	QRSA08J-102YN	RESISTOR
	R33	QRSA08J-102YN	RESISTOR
	R34	QRSA08J-102YN	RESISTOR
	R35	QRSA08J-104YN	RESISTOR
	R36	QRSA08J-103YN	RESISTOR
	R37	QRSA08J-103YN	RESISTOR
	R38	QRSA08J-103YN	RESISTOR
	R39	QRSA08J-103YN	RESISTOR
	R40	QRSA08J-472YN	RESISTOR
	C1	QCTA1CH-101	CAPACITOR
	C2	QCTA1CH-101	CAPACITOR
	C3	QEF80JM-225	TANTAL CAPACITOR
	C4	QCFA1EZ-104	CAPACITOR
	C7	QCYA1HK-103	CAPACITOR
	C8	QCYA1HK-103	CAPACITOR
⚠	X1	PGZ00825-02	CRYSTAL RESONATOR
	CN1	PGZ01081-10	MICRO HEADER
	CN2	PGZ01081-06	MICRO HEADER
	CN3	PGZ01081-06	MICRO HEADER

-2H DELAY MODULE -

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE30152B-02	2H DELAY MODULE,MOD5
	IC1	MN50005JVES	IC
	IC2	MN4053BS	IC
	IC3	MN74HC157S	IC
	IC4	UPD41101G	IC
	IC5	MN74HC74S	IC
	IC6	MN74HC14S	IC
	D1	DAN202K	DIODE ARRAY
	D2	MA28WA	TRANSISTOR
	D3	RB400D	DIODE
	R1	QRSA08J-105YN	RESISTOR
	R4	QRSA08J-103YN	RESISTOR
	R5	QRSA08J-104YN	RESISTOR
	R6	QRSA08J-103YN	RESISTOR
	R7	QRSA08J-104YN	RESISTOR
	R8	QRSA08J-101YN	RESISTOR
	R9	QRSA08J-101YN	RESISTOR
	R10	QRSA08J-103YN	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R11	QRSA08J-103YN	RESISTOR
	R12	QRSA08J-682YN	RESISTOR
	R13	QRSA08J-153YN	RESISTOR
	R14	QRSA08J-104YN	RESISTOR
	R15	QRSA08J-101YN	RESISTOR
	R16	QRSA08J-393YN	RESISTOR
	R17	QRSA08J-104YN	RESISTOR
	R18	QRSA08J-0R0Y	RESISTOR
	R20	QRSA08J-105YN	RESISTOR
	R21	QRSA08J-472YN	RESISTOR
	R22	QRSA08J-0R0Y	RESISTOR
	R24	QRSA08J-0R0Y	RESISTOR
	R25	QRSA08J-221YN	RESISTOR
	C1	QCYA1HK-103	CAPACITOR
	C7	QCYA1HK-102	CAPACITOR
	C8	QCYA1HK-152	CAPACITOR
	C9	QCYA1HK-561	CAPACITOR
	C10	QCTA1CH-100	CAPACITOR
	C11	QCTA1CH-100	CAPACITOR
	C12	QCFA1EZ-104	CAPACITOR
	C14	QCYA1HK-103	CAPACITOR
	C15	QCYA1HK-103	CAPACITOR
	C16	QCYA1HK-103	CAPACITOR
	C18	QCYA1HK-103	CAPACITOR
	X1	PGZ01007	CRYSTAL RESONATOR
	CN1	PGZ01081-06	MICRO HEADER
	CN2	PGZ01081-06	MICRO HEADER

-SERVO-1 SUB2 BOARD ASSY-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE40272B	SERVO-1 SUB2 BOARD ASSY
	Q1	2SB641P,Q,R,S	TRANSISTOR
	D1	1SS133	DIODE
	R1	QRD167J-102	RESISTOR
	R2	QRD167J-105	RESISTOR
	R3	QRD167J-104	RESISTOR
	R4	QRD167J-103	RESISTOR
	R5	QRD167J-124	RESISTOR
	C1	QETC1CM-476	E CAPACITOR
	C2	QFN41HJ-104	M CAPACITOR
	C3	QFN41HJ-223	M CAPACITOR
	TP1	PU45908	TEST PIN, X10

-SERVO-1 SUB BOARD ASSY<40>-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20162B-05	SERVO 1 SUB BOARD ASSY
	IC1	NJM2068MD	IC
	IC2	BA6993F	IC
	IC3	NJM2068MD	IC
	IC4	MN4011BS	IC
	IC5	MN4081BS	IC
	IC6	MN4069UBS	IC
	IC7	MN4053BS	IC
	IC8	TC4S01F	IC
	IC9	TC4S81F	IC
	IC10	TC4S71F	IC
	IC11	TC4S71F	IC
	IC101	BA833F	IC
	IC102	BA10358F	IC
	IC103	MN4013BS	IC

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*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	IC104	SM6430C	IC
	Q1	DTC144EK	TRANSISTOR
	Q2	DTA144EK	TRANSISTOR
	Q3	DTC144EK	TRANSISTOR
	Q4	2SB709	TRANSISTOR
	Q5	DTC144EK	TRANSISTOR
	Q6	DTC144EK	TRANSISTOR
	Q7	DTA144EK	TRANSISTOR
	Q8	DTC144EK	TRANSISTOR
	Q9	DTC144EK	TRANSISTOR
	Q10	2SD601	TRANSISTOR
	Q11	2SD601	TRANSISTOR
	Q101	DTA144EK	TRANSISTOR
	Q104	DTC144EK	TRANSISTOR
	Q105	2SK208(O)	FE TRANSISTOR
	Q106	IMZ2	TRANSISTOR
	Q107	IMZ2	TRANSISTOR
	D1	DAN202K	DIODE ARRAY
	D2	DAN202K	DIODE ARRAY
	D3	DAN202K	DIODE ARRAY
	D4	RB400D	DIODE
	D5	RB400D	DIODE
	D6	DAN202K	DIODE ARRAY
	D7	DAN202K	DIODE ARRAY
	D8	DAN202K	DIODE ARRAY
	D101	DAN202K	DIODE ARRAY
	DA1	DA204K	DIODE
	DA2	DAP202K	DIODE
	DA101	DA204K	DIODE
	DA102	DA204K	DIODE
	R1	QRSA08J-182YN	RESISTOR
	R2	QRSA08J-561YN	RESISTOR
	R3	QRSA08J-102YN	RESISTOR
	R4	QRSA08J-102YN	RESISTOR
	R5	QRSA08J-104YN	RESISTOR
	R6	QRSA08J-105YN	RESISTOR
	R7	QRSA08J-332YN	RESISTOR
	R8	QRSA08J-122YN	RESISTOR
	R9	QRSA08J-822YN	RESISTOR
	R10	QRSA08J-474YN	RESISTOR
	R11	QRSA08J-105YN	RESISTOR
	R12	QRSA08J-102YN	RESISTOR
	R13	QRSA08J-103YN	RESISTOR
	R14	QRSA08J-152YN	RESISTOR
	R15	QRSA08J-103YN	RESISTOR
	R16	QRSA08J-183YN	RESISTOR
	R17	QRSA08J-103YN	RESISTOR
	R18	QRSA08J-104YN	RESISTOR
	R19	QRSA08J-104YN	RESISTOR
	R20	QRSA08J-473YN	RESISTOR
	R21	QRSA08J-104YN	RESISTOR
	R22	QRSA08J-105YN	RESISTOR
	R23	QRSA08J-105YN	RESISTOR
	R24	QRSA08J-103YN	RESISTOR
	R25	QRSA08J-103YN	RESISTOR
	R26	QRSA08J-104YN	RESISTOR
	R27	QRSA08J-223YN	RESISTOR
	R28	QRSA08J-102YN	RESISTOR
	R29	QRSA08J-223YN	RESISTOR
	R30	QRSA08J-274YN	RESISTOR
	R31	QRSA08J-103YN	RESISTOR
	R32	QRSA08J-223YN	RESISTOR
	R33	QRSA08J-223YN	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R34	QRSA08J-223YN	RESISTOR
	R35	QRSA08J-223YN	RESISTOR
	R36	QRSA08J-223YN	RESISTOR
	R37	QRSA08J-473YN	RESISTOR
	R38	QRSA08J-223YN	RESISTOR
	R39	QRSA08J-223YN	RESISTOR
	R40	QRSA08J-223YN	RESISTOR
	R41	QRSA08J-223YN	RESISTOR
	R42	QRSA08J-473YN	RESISTOR
	R44	QRSA08J-0R0Y	RESISTOR
	R45	QRSA08J-0R0Y	RESISTOR
	R46	QRSA08J-0R0Y	RESISTOR
	R47	QRSA08J-103YN	RESISTOR
	R48	QRSA08J-393YN	RESISTOR
	R49	QRSA08J-100YN	RESISTOR
	R50	QRSA08J-564YN	RESISTOR
	R51	QRSA08J-105YN	RESISTOR
	R52	QRSA08J-105YN	RESISTOR
	R101	QRV143F-3742	CMF RESISTOR
	R102	QVZ3513-224	V RESISTOR
	R103	QRSA08J-333YN	RESISTOR
	R104	QRSA08J-224YN	RESISTOR
	R105	QRSA08J-104YN	RESISTOR
	R106	QRSA08J-334YN	RESISTOR
	R107	QRSA08J-394YN	RESISTOR
	R108	QRSA08J-103YN	RESISTOR
	R109	QVZ3513-474	V RESISTOR
	R112	QRSA08J-103YN	RESISTOR
	R113	QRSA08J-103YN	RESISTOR
	R114	QRSA08J-0R0Y	RESISTOR
	R115	QRSA08J-563YN	RESISTOR
	R116	QRSA08J-273YN	RESISTOR
	R117	QRSA08J-824YN	RESISTOR
	R118	QRSA08J-394YN	RESISTOR
	R119	QRSA08J-104YN	RESISTOR
	R120	QVZ3513-104	V RESISTOR
	R121	QRSA08J-824YN	RESISTOR
	R122	QRSA08J-824YN	RESISTOR
	R123	QRSA08J-563YN	RESISTOR
	R124	QRSA08J-0R0Y	RESISTOR
	R125	QRSA08J-105YN	RESISTOR
	R126	QRSA08J-104YN	RESISTOR
	R127	QRSA08J-103YN	RESISTOR
	R128	QRSA08J-224YN	RESISTOR
	R129	QVZ3513-154	V RESISTOR
	R130	QRSA08J-223YN	RESISTOR
	R131	QRSA08J-123YN	RESISTOR
	R132	QRSA08J-103YN	RESISTOR
	R133	QRSA08J-564YN	RESISTOR
	R134	QRSA08J-475YN	RESISTOR
	R135	QRSA08J-154YN	RESISTOR
	R137	QRSA08J-0R0Y	RESISTOR
	R138	QRSA08J-272YN	RESISTOR
	C1	QCYA1HK-102	CAPACITOR
	C2	QCTA1CH-151	CAPACITOR
	C3	QCFA1EZ-104	CAPACITOR
	C4	QEN61CM-106	NP E CAPACITOR
	C5	QCYA1HK-182	CAPACITOR
	C6	QETC1CM-476	E CAPACITOR
	C7	QCYA1HK-103	CAPACITOR
	C8	QEF81CM-105	TANTAL CAPACITOR
	C9	QEN61HM-105	NP E CAPACITOR
	C10	QETC1CM-227	E CAPACITOR
	C11	QCYA1HK-103	CAPACITOR
	C12	QETC1CM-476	E CAPACITOR
	C13	QCYA1HK-103	CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C14	QEF81CM-105	TANTAL CAPACITOR
	C15	QEF81CM-105	TANTAL CAPACITOR
	C16	QCTA1CH-470	CAPACITOR
	C17	QCYA1HK-103	CAPACITOR
	C18	QCYA1HK-152	CAPACITOR
	C19	QCYA1HK-471	CAPACITOR
	C20	QCFA1EZ-104	CAPACITOR
	C21	QCFA1EZ-104	CAPACITOR
	C101	QETC0JM-476	E CAPACITOR
	C102	QCYA1HK-103	CAPACITOR
	C103	QFM41HJ-683M	M CAPACITOR
	C104	QFN31HJ-104	M CAPACITOR
	C105	QFP42AF-273M	PP CAPACITOR
	C106	QCYA1HK-333	CAPACITOR
	C107	QCTA1CH-331	CAPACITOR
	C108	QCYA1HK-102	CAPACITOR
	C109	QFN31HJ-124	M CAPACITOR
	C110	QFM41HJ-104M	MYLAR CAPACITOR
	C111	QETC0JM-226	E CAPACITOR
	C112	QETC1CM-106	E CAPACITOR
	C113	QFP42AF-123M	PP CAPACITOR
	C114	QCYA1HK-333	CAPACITOR
	C115	QCTA1CH-331	CAPACITOR
	C116	QFM41HJ-123M	MYLAR CAPACITOR
⚠	C117	QCYA1HK-102	CAPACITOR
	C118	QFN31HJ-124	M CAPACITOR
⚠	C119	QCTA1CH-390	CAPACITOR
⚠	C120	QCTA1CH-390	CAPACITOR
	L1	PU48530-221J	COIL
	L2	PU48530-221J	COIL
	L101	PU48530-221J	COIL
⚠	X101	PU47701	CRYSTAL RESONATOR
	X102	PU47220	CRYSTAL RESONATOR
	TP1	PU54983	TEST PIN, X7
	CN5	PGZ00802-10	MICRO HEADER
	CN6	PGZ00802-08	MICRO HEADER
	CN7	PGZ00802-05	MICRO HEADER
	CN8	PGZ00802-10	MICRO HEADER
	CN9	PGZ00802-05	MICRO HEADER

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6.2.11 SERVO-2 BOARD ASSEMBLY <11>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE10071C-04	SERVO-2 BOARD ASSY
	CN1	PGZ00421-64	MALE CONNECTOR
	CN2	PU58844-7	CAP HOUSING
	CN3	PU58844-7	CAP HOUSING

-REEL SERVO SECTION-

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	IC1	TA7140P	IC
	IC2	MN4072BS	IC
	IC3	BA10324F	IC
	IC4	MN4069UBS	IC
	IC6	MN4094BS	IC
	IC7	MN4094BS	IC
	IC8	MN4066BS	IC
	IC9	MN4066BS	IC
	IC10	MN4066BS	IC
	IC11	BA6302A	IC
	IC12	BA10324F	IC
	IC13	MN4066BS	IC
	IC14	TC4S71F	IC
	Q1	2SD601	TRANSISTOR
	Q2	FMG2	TRANSISTOR
	Q4	FMW1	TRANSISTOR
	Q5	2SD601	TRANSISTOR
	Q6	2SD601	TRANSISTOR
	Q7	2SD601	TRANSISTOR
	Q8	2SD601	TRANSISTOR
	Q9	2SD601	TRANSISTOR
	Q10	DTA144EK	TRANSISTOR
	Q11	2SK621	FE TRANSISTOR
	Q13	DTC144EK	TRANSISTOR
	Q14	DTC144EK	TRANSISTOR
	Q15	DTC144EK	TRANSISTOR
	Q17	2SD601	TRANSISTOR
	Q18	DTA144EK	TRANSISTOR
	Q19	2SD601	TRANSISTOR
	D1	DA204K	DIODE
	D3	DAN202K	DIODE ARRAY
	D4	DAN202K	DIODE ARRAY
	D5	DAN202K	DIODE ARRAY
	D8	DAN202K	DIODE ARRAY
	R1	QRSA08J-103YN	RESISTOR
	R2	QRSA08J-103YN	RESISTOR
	R3	QRSA08J-102YN	RESISTOR
	R4	QRSA08J-331YN	RESISTOR
	R5	QRSA08J-471YN	RESISTOR
	R6	QRSA08J-561YN	RESISTOR
	R7	QRSA08J-563YN	RESISTOR
	R8	QRSA08J-103YN	RESISTOR
	R9	QRSA08J-561YN	RESISTOR
	R10	QRSA08J-103YN	RESISTOR
	R11	QRSA08J-103YN	RESISTOR
	R12	QRSA08J-103YN	RESISTOR
	R13	QRSA08J-333YN	RESISTOR
	R14	QRSA08J-472YN	RESISTOR
	R15	QRSA08J-124YN	RESISTER
	R16	QRSA08J-103YN	RESISTOR
	R17	QRSA08J-682YN	RESISTOR
	R18	QRSA08J-222YN	RESISTOR
	R19	QRSA08J-823YN	RESISTOR
	R20	QRSA08J-224YN	RESISTOR
	R21	QRSA08J-224YN	RESISTOR
	R22	QRSA08J-823YN	RESISTOR
	R23	QRSA08J-154YN	RESISTOR
	R24	QRV143F-5361	CMF RESISTOR
	R25	QRV143F-3831	CMF RESISTOR
	R26	QRSA08J-153YN	RESISTOR
	R27	QRSA08J-105YN	RESISTOR
	R28	QRSA08J-103YN	RESISTOR
	R29	QRSA08J-562YN	RESISTOR
	R30	QRSA08J-332YN	RESISTOR
	R31	QRV143F-5361	CMF RESISTOR
	R32	QRV143F-5111	CMF RESISTOR
	R33	QRSA08J-103YN	RESISTOR
	R34	QRSA08J-103YN	RESISTOR
	R35	QRSA08J-103YN	RESISTOR
	R36	QRSA08J-473YN	RESISTOR
	R37	QRSA08J-104YN	RESISTOR
	R41	QRSA08J-473YN	RESISTOR
	R42	QRSA08J-473YN	RESISTOR
	R43	QRSA08J-473YN	RESISTOR
	R45	QRSA08J-102YN	RESISTOR

<11>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R46	QRSA08J-222YN	RESISTOR
	R47	QRSA08J-392YN	RESISTOR
	R48	QRSA08J-222YN	RESISTOR
	R49	QRSA08J-332YN	RESISTOR
	R50	QRSA08J-103YN	RESISTOR
	R51	QRSA08J-222YN	RESISTOR
	R52	QRSA08J-392YN	RESISTOR
	R53	QRSA08J-222YN	RESISTOR
	R54	QRSA08J-332YN	RESISTOR
	R55	QRSA08J-103YN	RESISTOR
	R56	QRSA08J-152YN	RESISTOR
	R57	QRSA08J-104YN	RESISTOR
	R58	QRSA08J-103YN	RESISTOR
	R59	QRSA08J-103YN	RESISTOR
	R60	QRSA08J-104YN	RESISTOR
	R61	QRSA08J-103YN	RESISTOR
	R62	QRSA08J-121YN	RESISTOR
	R63	QRSA08J-121YN	RESISTOR
	R64	QRSA08J-102YN	RESISTOR
	R65	QRSA08J-103YN	RESISTOR
	R66	QRSA08J-103YN	RESISTOR
	R67	QRSA08J-273YN	RESISTOR
	R68	QRSA08J-154YN	RESISTOR
	R69	QRSA08J-103YN	RESISTOR
	R70	QRSA08J-102YN	RESISTOR
	R71	QRSA08J-184YN	RESISTOR
	R72	QRSA08J-564YN	RESISTOR
	R73	QRSA08J-103YN	RESISTOR
	R74	QRSA08J-104YN	RESISTOR
	R75	QRSA08J-334YN	RESISTOR
	R76	QRSA08J-102YN	RESISTOR
	R77	QRSA08J-153YN	RESISTOR
	R78	QRSA08J-222YN	RESISTOR
	R79	QRSA08J-392YN	RESISTOR
	R80	QRSA08J-104YN	RESISTOR
	R81	QRSA08J-222YN	RESISTOR
	R82	QRSA08J-332YN	RESISTOR
	R83	QRSA08J-222YN	RESISTOR
	R84	QRSA08J-332YN	RESISTOR
	R85	QRSA08J-103YN	RESISTOR
	R86	QRSA08J-152YN	RESISTOR
	R87	QRSA08J-104YN	RESISTOR
	R88	QRSA08J-103YN	RESISTOR
	R89	QRSA08J-103YN	RESISTOR
	R90	QRSA08J-104YN	RESISTOR
	R91	QRSA08J-103YN	RESISTOR
	R92	QRD121J-681	RESISTOR
	R93	QRSA08J-103YN	RESISTOR
	R94	QRSA08J-103YN	RESISTOR
	R95	QRSA08J-224YN	RESISTOR
	R96	QRSA08J-473YN	RESISTOR
	R97	QRSA08J-222YN	RESISTOR
	R98	QRSA08J-103YN	RESISTOR
	R99	QRSA08J-0R0Y	RESISTOR
	R102	PU55509-102	V RESISTOR
	R103	PU55509-102	V RESISTOR
	R104	PU55509-332	V RESISTOR
	R105	PU55509-102	V RESISTOR
	R106	PU55509-102	V RESISTOR
	R107	PU55509-102	V RESISTOR
	R108	PU55509-102	V RESISTOR
	R109	PU55509-102	V RESISTOR
	R110	PU55509-102	V RESISTOR
	R111	PU55509-102	V RESISTOR
	R112	PU55509-334	V RESISTOR
	R113	PU55509-102	V RESISTOR
	R114	PU55509-102	V RESISTOR
	R120	QRSA08J-103YN	RESISTOR
	R121	QRSA08J-103YN	RESISTOR
	R122	QRSA08J-103YN	RESISTOR
	R123	QRSA08J-103YN	RESISTOR
	R124	QRSA08J-103YN	RESISTOR
	R125	QRSA08J-103YN	RESISTOR
	R127	QRSA08J-103YN	RESISTOR
	R128	QRSA08J-475YN	RESISTOR
	R129	QRSA08J-103YN	RESISTOR
	R130	QRSA08J-103YN	RESISTOR
	R131	QRSA08J-103YN	RESISTOR
	R132	QRSA08J-103YN	RESISTOR
	R133	QRSA08J-103YN	RESISTOR
	R134	QRSA08J-103YN	RESISTOR
	R135	QRSA08J-103YN	RESISTOR
	R136	QRSA08J-103YN	RESISTOR
	R301	QRSA08J-0R0Y	RESISTOR, X54
	C1	QETC1CM-106	E CAPACITOR
	C2	QETC1CM-476	E CAPACITOR
	C3	QFN31HJ-103	M CAPACITOR
	C4	QCYA1HK-103	CAPACITOR
	C5	QCYA1HK-103	CAPACITOR
	C6	QER61CM-106	E CAPACITOR
	C7	QER41CM-106	E CAPACITOR
	C8	QER61CM-106	E CAPACITOR
	C9	QETC1CM-476	E CAPACITOR
	C10	QFN31HJ-223	M CAPACITOR
	C11	QFN31HJ-223	M CAPACITOR
	C12	QFN41HJ-563	M CAPACITOR
	C13	QETC1CM-106	E CAPACITOR
	C14	QCYA1HK-103	CAPACITOR
	C15	QCYA1HK-103	CAPACITOR
	C16	QETC1CM-107	E CAPACITOR
	C17	QETC1HM-105	E CAPACITOR
	C18	QETA1CM-106	E CAPACITOR
	C19	QCYA1HK-103	CAPACITOR
	C20	QCFA1EZ-104	CAPACITOR
	C21	QETC1CM-106	E CAPACITOR
	C22	QCYA1HK-123	CAPACITOR
	C23	QETC1CM-106	E CAPACITOR
	C24	QFN31HJ-394	M CAPACITOR
	C25	QEN61CM-107	E CAPACITOR
	C26	QFN41HJ-153	M CAPACITOR
	C27	QETA1CM-106	E CAPACITOR
	C28	QETC1CM-106	E CAPACITOR
	C29	QFN31HJ-103	M CAPACITOR
	C31	QETC1CM-107	E CAPACITOR
	C32	QCYA1HK-103	CAPACITOR
	C33	QCYA1HK-103	CAPACITOR
	C34	QCYA1HK-103	CAPACITOR
	C35	QCYA1HK-103	CAPACITOR
	C36	QCYA1HK-103	CAPACITOR
	C37	QETC1CM-106	E CAPACITOR
	C38	QETC1CM-106	E CAPACITOR
	C39	QETC1CM-106	E CAPACITOR
	C40	QETC1CM-106	E CAPACITOR
	C41	QCYA1HK-103	CAPACITOR
	C42	QETC1CM-106	E CAPACITOR
	C43	QEK61CM-107	E CAPACITOR
	C44	QCYA1HK-103	CAPACITOR
	C45	QETC1CM-107	E CAPACITOR
	C46	QCYA1HK-103	CAPACITOR
	C47	QFN31HJ-104	M CAPACITOR
	C48	QCYA1HK-103	CAPACITOR
	C50	QCS31HJ-331	CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C51	QFN31HJ-273	M CAPACITOR
	C52	QCYA1HK-103	CAPACITOR
	C53	QETC1HM-335	E CAPACITOR
	C54	QCYA1HK-103	CAPACITOR
	C55	QCYA1HK-103	CAPACITOR
	C56	QETC1CM-106	E CAPACITOR
	C57	QETC1CM-106	E CAPACITOR
	C58	QETC1CM-106	E CAPACITOR
	C59	QETA1CM-106	E CAPACITOR
	C60	QCFA1EZ-104	CAPACITOR
	L1	PU48530-271J	COIL
	L2	PU48530-271J	COIL
	L3	PU48530-271J	COIL
	L4	PU48530-271J	COIL
	L5	PU44041-104	COIL
	TP1	PU56008	TEST PIN, X15

-CAPSTAN SERVO SECTION-

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	IC201	NJM2068MD	IC
	IC202	NJM2068MD	IC
	IC203	BA6993F	IC
	IC204	MN4030BS	IC
	IC205	VC2032	IC
	IC206	BA10358F	IC
	IC207	BA10358F	IC
	IC208	BA6993F	IC
	IC209	MN4538BS	IC
⚠	IC210	NJM78L05D	IC
	Q201	DTC144EK	TRANSISTOR
	Q202	DTA144EK	TRANSISTOR
	Q203	2SK128	FE TRANSISTOR
	Q204	DTC124EK	TRANSISTOR
	D201	DAN202K	DIODE ARRAY
	D202	DAP202K	DIODE
	D203	DAN202K	DIODE ARRAY
⚠	R201	PU52108-101K	POSITIVE THERMISTOR
	R202	QRSA08J-103YN	RESISTOR
	R203	QRSA08J-103YN	RESISTOR
	R204	QRSA08J-102YN	RESISTOR
	R205	QRSA08J-333YN	RESISTOR
	R206	QRSA08J-103YN	RESISTOR
	R207	QRSA08J-103YN	RESISTOR
	R208	QRSA08J-102YN	RESISTOR
	R209	QRSA08J-333YN	RESISTOR
	R210	QRSA08J-102YN	RESISTOR
	R211	QRSA08J-102YN	RESISTOR
	R212	QRD161J-102	RESISTOR
	R213	QRSA08J-104YN	RESISTOR
	R214	QRSA08J-222YN	RESISTOR
	R215	QRSA08J-102YN	RESISTOR
	R216	QRD161J-102	RESISTOR
	R217	QRSA08J-102YN	RESISTOR
	R218	QRSA08J-123YN	RESISTOR
	R219	QRSA08J-222YN	RESISTOR
	R220	QRSA08J-823YN	RESISTOR
	R221	QRSA08J-102YN	RESISTOR
	R222	QRSA08J-823YN	RESISTOR
	R223	QRSA08J-102YN	RESISTOR
	R224	QRSA08J-102YN	RESISTOR
	R225	QRSA08J-102YN	RESISTOR
	R226	QRSA08J-472YN	RESISTOR
	R227	QRSA08J-472YN	RESISTOR
	R228	QRSA08J-102YN	RESISTOR
	R229	QRSA08J-102YN	RESISTOR
	R230	QRSA08J-103YN	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R231	QRSA08J-103YN	RESISTOR
	R232	QRSA08J-103YN	RESISTOR
	R233	QRSA08J-103YN	RESISTOR
	R234	QRD161J-103	RESISTOR
	R235	QRSA08J-0R0Y	RESISTOR
	R236	QRSA08J-563YN	RESISTOR
	R237	QRSA08J-123YN	RESISTOR
	R238	QRSA08J-103YN	RESISTOR
	R239	QRSA08J-105YN	RESISTOR
	R240	QRSA08J-222YN	RESISTOR
	R241	QRSA08J-223YN	RESISTOR
	R242	QRSA08J-223YN	RESISTOR
	R243	QRSA08J-223YN	RESISTOR
	R244	QRSA08J-102YN	RESISTOR
	R246	QRSA08J-103YN	RESISTOR
	R247	QRD161J-472	RESISTOR
	R248	QRSA08J-473YN	RESISTOR
	R249	QRSA08J-103YN	RESISTOR
	R250	QRSA08J-103YN	RESISTOR
	R251	QRSA08J-473YN	RESISTOR
	R252	QRSA08J-473YN	RESISTOR
	R253	QRSA08J-473YN	RESISTOR
	R254	QRSA08J-473YN	RESISTOR
	R255	QRSA08J-104YN	RESISTOR
	R256	QRSA08J-472YN	RESISTOR
	R257	QRSA08J-102YN	RESISTOR
	R258	QRSA08J-153YN	RESISTOR
	R259	QRSA08J-122YN	RESISTOR
	R260	QRSA08J-102YN	RESISTOR
	R261	PU55509-102	V RESISTOR
	R262	PU55509-102	V RESISTOR
	R263	PU55509-332	V RESISTOR
	R264	PU55509-332	V RESISTOR
	R270	QRSA08J-105YN	RESISTOR
	C201	QCYA1HK-103	CAPACITOR
	C202	QETC1CM-476	E CAPACITOR
	C203	QETC1CM-476	E CAPACITOR
	C204	QCYA1HK-103	CAPACITOR
	C205	QCYA1HK-103	CAPACITOR
	C206	QETC1CM-476	E CAPACITOR
	C207	QETC1CM-476	E CAPACITOR
	C208	QCYA1HK-103	CAPACITOR
	C209	QETC1CM-106	E CAPACITOR
	C210	QETC1CM-106	E CAPACITOR
	C211	QCTA1CH-680	CAPACITOR
	C212	QCTA1CH-680	CAPACITOR
	C213	QCYA1HK-103	CAPACITOR
	C214	QCYA1HK-103	CAPACITOR
	C215	QCYA1HK-103	CAPACITOR
	C216	QETC1CM-476	E CAPACITOR
	C217	QCTA1CH-101	CAPACITOR
	C218	QCTA1CH-101	CAPACITOR
	C219	QETC1CM-476	E CAPACITOR
	C220	QCYA1HK-103	CAPACITOR
	C221	QETC1CM-476	E CAPACITOR
	C222	QCYA1HK-103	CAPACITOR
	C223	QCTA1CH-101	CAPACITOR
	C224	QCTA1CH-221	CAPACITOR
	C225	QETC1CM-476	E CAPACITOR
	C226	QFN31HJ-104	M CAPACITOR
	C228	QCYA1HK-103	CAPACITOR
	C229	QETC1CM-106	E CAPACITOR
	C230	QETC1CM-476	E CAPACITOR
	C231	QCYA1HK-103	CAPACITOR
	C232	QCYA1HK-103	CAPACITOR
	C233	QETC1CM-106	E CAPACITOR
	C234	QFN31HJ-473	M CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C235	QCYA1HK-103	CAPACITOR
	C236	QCYA1HK-333	CAPACITOR
	C237	QETC1CM-476	E CAPACITOR
	C238	QCYA1HK-103	CAPACITOR
	L202	PU48530-271J	COIL
	L203	PU48530-271J	COIL
	L204	PU48530-271J	COIL
	L205	PU48530-271J	COIL
	L206	PU48530-271J	COIL
	L208	PU48530-271J	COIL
	L209	PU48530-271J	COIL
	TP201	PU56008	TEST PIN, X12

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6.2.12 SYSCON BOARD ASSEMBLY <12>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20170B-02	SYSCON BOARD ASSY
	IC1	HD6303RP	IC
⚠	IC2	PGD30241-6-5	IC
	IC3	TMP82C55AF-2	IC
⚠	IC4	PGD30430-2-1	IC
	IC5	MN74HC00S	IC
	IC6	MN74HC00S	IC
	IC7	MN4021BS	IC
	IC8	MN4021BS	IC
	IC9	MN4021BS	IC
	IC10	MN4021BS	IC
	IC11	MN4021BS	IC
	IC12	MN4021BS	IC
	IC14	UPD6345GS	IC
	IC15	UPD6345GS	IC
	IC17	MN4053BS	IC
	IC18	TC35094P	IC
	IC19	BA10358F	IC
	IC20	MN4029BS	IC
	IC21	UPD554C-058	IC
	IC22	TD62503F	IC
	IC23	TD62503F	IC
	IC24	MN4094BS	IC
	IC25	MN4094BS	IC
	IC26	MN4094BS	IC
	IC27	MN4013BS	IC
	Q1	DTC114YK	TRANSISTOR
	Q2	DTA114YK	TRANSISTOR
	Q3	DTA114YK	TRANSISTOR
	Q4	DTC114YK	TRANSISTOR
	Q5	DTC114YK	TRANSISTOR
	Q6	DTA114YK	TRANSISTOR
	Q7	DTA114YK	TRANSISTOR
	Q9	DTC114YK	TRANSISTOR
	Q10	DTA114YK	TRANSISTOR
	Q11	DTC114YK	TRANSISTOR
	Q12	DTA114YK	TRANSISTOR
	Q13	DTA114YK	TRANSISTOR
	Q14	DTC114YK	TRANSISTOR
	Q15	2SB793AR	TRANSISTOR
	Q16	DTC114YK	TRANSISTOR
	D1	RD5.6ESB1	ZENER DIODE
	D2	RD5.6ESB1	ZENER DIODE
	D3	DAN202K	DIODE ARRAY
	D4	DAN202K	DIODE ARRAY
	D5	DAN202K	DIODE ARRAY
	D6	DAN202K	DIODE ARRAY
	D7	DAN202K	DIODE ARRAY
	D8	DAN202K	DIODE ARRAY
	D9	RD3.0ESB2	ZENER DIODE
	D10	DAN202K	DIODE ARRAY
	D11	DAN202K	DIODE ARRAY
	D12	DAN202K	DIODE ARRAY
	D14	DAN202K	DIODE ARRAY
	D15	DAN202K	DIODE ARRAY
	D21	1SS133	DIODE
	R1	QRSA08J-473YN	RESISTOR
	R2	QRSA08J-473YN	RESISTOR
	R3	QRSA08J-271YN	RESISTOR
	R4	QRSA08J-271YN	RESISTOR
	R5	QRSA08J-271YN	RESISTOR
	R6	QRSA08J-562YN	RESISTOR
	R7	QRSA08J-562YN	RESISTOR
	R8	QRSA08J-334YN	RESISTOR
	R10	QRSA08J-103YN	RESISTOR
	R13	QRSA08J-103YN	RESISTOR
	R14	QRSA08J-103YN	RESISTOR
	R16	QRSA08J-103YN	RESISTOR
	R17	QRSA08J-103YN	RESISTOR
	R18	QRSA08J-103YN	RESISTOR
	R19	QRSA08J-103YN	RESISTOR
	R20	QRSA08J-103YN	RESISTOR
	R21	QRSA08J-334YN	RESISTOR
	R22	QRSA08J-103YN	RESISTOR
	R23	QRSA08J-102YN	RESISTOR
	R24	QRSA08J-102YN	RESISTOR
	R25	QRSA08J-102YN	RESISTOR
	R26	QRSA08J-102YN	RESISTOR
	R30	QRSA08J-103YN	RESISTOR
	R31	QRSA08J-103YN	RESISTOR
	R32	QRSA08J-103YN	RESISTOR
	R34	QRSA08J-102YN	RESISTOR
	R35	QRSA08J-103YN	RESISTOR
	R36	QRSA08J-103YN	RESISTOR
	R40	QRSA08J-103YN	RESISTOR
	R41	QRSA08J-102YN	RESISTOR
	R42	QRSA08J-102YN	RESISTOR
	R43	QRSA08J-103YN	RESISTOR
	R44	QRSA08J-103YN	RESISTOR
	R45	QRSA08J-334YN	RESISTOR
	R46	QRSA08J-334YN	RESISTOR
	R47	QRSA08J-472YN	RESISTOR
	R48	QRSA08J-334YN	RESISTOR
	R49	QRSA08J-334YN	RESISTOR
	R50	QRSA08J-103YN	RESISTOR
	R51	QRSA08J-103YN	RESISTOR
	R52	QRSA08J-103YN	RESISTOR
	R53	QRSA08J-334YN	RESISTOR
	R54	QRSA08J-334YN	RESISTOR
	R55	QRSA08J-472YN	RESISTOR
	R58	QRSA08J-102YN	RESISTOR
	R59	QRSA08J-103YN	RESISTOR
	R60	QRSA08J-103YN	RESISTOR
	R62	QRSA08J-102YN	RESISTOR
	R63	QRSA08J-102YN	RESISTOR
	R64	QRSA08J-102YN	RESISTOR
	R65	QRSA08J-102YN	RESISTOR
	R66	QRSA08J-102YN	RESISTOR
	R67	QRSA08J-102YN	RESISTOR
	R69	QRSA08J-102YN	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R70	QRSA08J-102YN	RESISTOR
	R71	QRSA08J-102YN	RESISTOR
	R74	QRSA08J-103YN	RESISTOR
	R75	QRSA08J-103YN	RESISTOR
	R76	QRSA08J-103YN	RESISTOR
	R77	QRSA08J-103YN	RESISTOR
	R78	QRSA08J-103YN	RESISTOR
	R79	QRSA08J-103YN	RESISTOR
	R80	QRSA08J-103YN	RESISTOR
	R83	QRSA08J-473YN	RESISTOR
	R84	QRSA08J-273YN	RESISTOR
	R85	QRSA08J-103YN	RESISTOR
	R89	PU55509-103	V RESISTOR
⚠	R90	QRSA08J-105YN	RESISTOR
	R91	QRSA08J-271YN	RESISTOR
	R92	QRSA08J-271YN	RESISTOR
	R93	QRSA08J-271YN	RESISTOR
	R94	QRSA08J-271YN	RESISTOR
	R95	QRSA08J-271YN	RESISTOR
	R96	QRSA08J-271YN	RESISTOR
	R98	QRSA08J-271YN	RESISTOR
	R99	QRSA08J-271YN	RESISTOR
	R100	QRSA08J-271YN	RESISTOR
	R101	QRSA08J-334YN	RESISTOR
	R102	QRSA08J-103YN	RESISTOR
	R103	QRSA08J-101YN	RESISTOR
	R104	QRSA08J-473YN	RESISTOR
	R105	QRSA08J-222YN	RESISTOR
	R107	QRSA08J-271YN	RESISTOR
	R110	QRSA08J-102YN	RESISTOR
	R111	QRSA08J-102YN	RESISTOR
	R112	QRSA08J-103YN	RESISTOR
	R113	QRSA08J-103YN	RESISTOR
	R114	QRSA08J-271YN	RESISTOR
	R115	QRSA08J-0R0Y	RESISTOR
	R117	QRSA08J-271YN	RESISTOR
	R118	QRSA08J-271YN	RESISTOR
	R119	QRSA08J-271YN	RESISTOR
	R120	QRSA08J-271YN	RESISTOR
	R121	QRSA08J-271YN	RESISTOR
	R122	QRSA08J-271YN	RESISTOR
	R123	QRSA08J-271YN	RESISTOR
	R124	QRSA08J-271YN	RESISTOR
	R125	QRSA08J-271YN	RESISTOR
	R126	QRSA08J-271YN	RESISTOR
	R127	QRSA08J-271YN	RESISTOR
	R128	QRSA08J-271YN	RESISTOR
	R129	QRSA08J-271YN	RESISTOR
	R130	QRSA08J-271YN	RESISTOR
	R131	QRSA08J-271YN	RESISTOR
	R132	QRSA08J-271YN	RESISTOR
	R133	QRSA08J-271YN	RESISTOR
	R134	QRSA08J-271YN	RESISTOR
	R135	QRSA08J-271YN	RESISTOR
	R136	QRSA08J-271YN	RESISTOR
	R137	QRSA08J-271YN	RESISTOR
	R138	QRSA08J-271YN	RESISTOR
	R139	QRSA08J-271YN	RESISTOR
	R140	QRSA08J-271YN	RESISTOR
	R141	QRSA08J-102YN	RESISTOR
	R142	QRSA08J-334YN	RESISTOR
	R143	QRSA08J-101YN	RESISTOR
	R144	QRSA08J-334YN	RESISTOR
	R145	QRSA08J-101YN	RESISTOR
	R146	QRSA08J-334YN	RESISTOR
	R147	QRSA08J-101YN	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R148	QRD167J-102	RESISTOR
	R149	QRD121J-102S	RESISTOR
	RA1	EXB-P88334M	RESISTOR ARRAY
	RA2	EXB-P88334M	RESISTOR ARRAY
	RA3	EXB-P88334M	RESISTOR ARRAY
	RA4	EXB-P88334M	RESISTOR ARRAY
	RA5	EXB-P88103M	NETWORK RESISTOR
	RA6	EXB-P88334M	RESISTOR ARRAY
	RA7	EXB-P88334M	RESISTOR ARRAY
	RA8	EXB-P88334M	RESISTOR ARRAY
	C1	QCYA1HK-103	CAPACITOR
⚠	C2	QCSA1HJ-560	CAPACITOR
⚠	C3	QCSA1HJ-470	CAPACITOR
	C4	QCY81EK-104	CAPACITOR
	C5	QCY81EK-104	CAPACITOR
	C7	QCYA1HK-223	CAPACITOR
	C8	QCYA1HK-223	CAPACITOR
	C9	QCYA1HK-223	CAPACITOR
	C10	QCYA1HK-223	CAPACITOR
	C11	QCYA1HK-223	CAPACITOR
	C12	QCY81EK-104	CAPACITOR
	C13	QCY81EK-104	CAPACITOR
	C14	QCY81EK-104	CAPACITOR
⚠	C15	QCSA1HJ-471	CAPACITOR
⚠	C16	QCSA1HJ-121	CAPACITOR
⚠	C18	QCSA1HJ-220	CAPACITOR
⚠	C19	QCSA1HJ-220	CAPACITOR
	C20	QETC1EM-107	E CAPACITOR
	C21	QETC1EM-107	E CAPACITOR
	C22	QCY81EK-104	CAPACITOR
	C23	QCY81EK-104	CAPACITOR
	C24	QCY81EK-104	CAPACITOR
	C25	QETC1EM-107	E CAPACITOR
	C26	QCY81EK-104	CAPACITOR
	C27	QETC1EM-107	E CAPACITOR
	C29	QCYA1HK-223	CAPACITOR
	C30	QCY81EK-104	CAPACITOR
	C31	QCY81EK-104	CAPACITOR
	C32	QCY81EK-104	CAPACITOR
	C33	QCY81EK-104	CAPACITOR
	C34	QCY81EK-104	CAPACITOR
	C35	QCY81EK-104	CAPACITOR
	C36	QCY81EK-104	CAPACITOR
	C38	QCY81EK-104	CAPACITOR
	C39	QCY81EK-104	CAPACITOR
	C40	QCY81EK-104	CAPACITOR
	C41	QCY81EK-104	CAPACITOR
	C42	QCY81EK-104	CAPACITOR
	C43	QCY81EK-104	CAPACITOR
	C44	QCY81EK-104	CAPACITOR
	C46	QCY81EK-104	CAPACITOR
	C47	QCY81EK-104	CAPACITOR
	C48	QCY81EK-104	CAPACITOR
	C49	QCSA1HJ-102	CAPACITOR
	C50	QCSA1HJ-102	CAPACITOR
	C51	QER41HM-474	E CAPACITOR
	C52	QCY81EK-104	CAPACITOR
	C53	QETC1EM-107	E CAPACITOR
	L1	PU48530-221J	COIL
	L2	PGZ00617-221	COIL
	L3	PU48530-221J	COIL
	L4	PU48530-221J	COIL
⚠	CF1	PU55812	RESONATOR
⚠	CF2	PGZ00067	CRYSTAL RESONATOR
⚠	CF3	PU53580	RESONATOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	S1	QSS1K81-L01	DIP SWITCH
	S2	QSS1K81-L01	DIP SWITCH
	S3	QSS1K81-L01	DIP SWITCH
	SKT1	PGZ00331-028	IC SOCKET, FOR IC2
	TP1	PU54983	TEST PIN
	CN1	PGZ00421-100	MALE CONNECTOR
	CN2	PGZ00757-112	CONNECTOR
	CN3	PGZ00757-112	CONNECTOR
	CN4	PGZ00757-112	CONNECTOR

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6.2.13 END SENSOR BOARD <13>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWB	PGE40151	END SENSOR BOARD
	Q1	PT-352V	PHOTO TRANSISTOR
	VA1	PU49624-2	VARISTOR
	VA2	PU49624-2	VARISTOR

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6.2.14 DRIVER BOARD ASSEMBLY <14>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE10073A-03	DRIVER BOARD ASSY
	IC1	BA10358F	IC
	IC2	MN4021BS	IC
	IC3	MN4021BS	IC
	IC4	MN4094BS	IC
	IC5	M54519P	IC
	IC6	M54543L	IC
	IC7	M54543L	IC
	IC101	UPC1246G	IC
	IC201	BA222	IC
	IC202	M51207L	IC
	IC203	BA10358F	IC
	IC204	MN4053BS	IC
	IC205	M51207L	IC
	Q1	DTC124EK	TRANSISTOR
	Q2	2SB907	TRANSISTOR
	Q3	2SB907	TRANSISTOR
	Q4	2SB907	TRANSISTOR
	Q5	2SB907	TRANSISTOR
	Q6	2SB907	TRANSISTOR
	Q7	2SB907	TRANSISTOR
	Q9	2SD1276(PQ)	TRANSISTOR
	Q10	DTC124EK	TRANSISTOR
	Q11	DTC124EK	TRANSISTOR
	Q12	DTC124EK	TRANSISTOR
	Q13	DTC124EK	TRANSISTOR
	Q14	DTC124EK	TRANSISTOR
	Q101	2SD553(Y)	TRANSISTOR
	Q102	2SD636Q	TRANSISTOR
	Q103	2SB1019(Y)	TRANSISTOR
	Q104	2SD636Q	TRANSISTOR
	Q105	2SB1019(Y)	TRANSISTOR
	Q106	2SD636Q	TRANSISTOR
	Q107	2SB1019(Y)	TRANSISTOR
	Q108	2SD636Q	TRANSISTOR
	Q109	2SD1412(Y)	TRANSISTOR
	Q110	2SD636Q	TRANSISTOR
	Q111	2SD1412(Y)	TRANSISTOR
	Q112	2SD636Q	TRANSISTOR
	Q113	2SD1412(Y)	TRANSISTOR
	Q201	2SD636R,S	TRANSISTOR
	Q202	2SD636R,S	TRANSISTOR
	Q203	2SA1388(Y)	TRANSISTOR
	Q204	2SD636R,S	TRANSISTOR
	Q205	2SD636R,S	TRANSISTOR
	Q206	2SA1388(Y)	TRANSISTOR
	Q207	2SD1276(PQ)	TRANSISTOR
	Q208	2SD1276(PQ)	TRANSISTOR
	Q209	DTC144EK	TRANSISTOR
	D1	RD12EB1	ZENER DIODE
	D2	DAN202K	DIODE ARRAY
	D101	DAN202K	DIODE ARRAY
	D201	RK44LF-K5	DIODE
	D202	RK44LF-K5	DIODE
	D203	MA3056(M)	ZENER DIODE
	D204	MA3056(M)	ZENER DIODE
	D205	DAP202K	DIODE
	DA1	IMN10	DIODE
	DA2	IMN10	DIODE
	R1	QRD161J-103	RESISTOR
	R2	QRD161J-184	RESISTOR
	R3	QRD161J-224	RESISTOR
	R4	QRD161J-103	RESISTOR
	R5	QRD161J-472	RESISTOR
	R6	QRD161J-222	RESISTOR
	R7	QRD161J-333	RESISTOR
	R8	QRD161J-103	RESISTOR
	R9	QRD161J-103	RESISTOR
	R10	QRD123J-151S	RESISTOR
	R11	QRD161J-103	RESISTOR
	R12	QRD161J-103	RESISTOR
	R13	QRD161J-103	RESISTOR
	R14	QRD161J-103	RESISTOR
	R15	QRD161J-102	RESISTOR
	R16	QRD161J-103	RESISTOR
	R17	QRD161J-103	RESISTOR
	R18	QRD161J-103	RESISTOR
	R19	QRD161J-103	RESISTOR
	R20	QRD161J-103	RESISTOR
	R21	QRD161J-103	RESISTOR
	R22	QRD161J-103	RESISTOR
	R23	QRD161J-103	RESISTOR
	R24	QRD161J-103	RESISTOR
	R25	QRD161J-124	RESISTOR
	R26	QRD161J-124	RESISTOR
	R27	QRD161J-331	RESISTOR
	R28	QRD161J-221	RESISTOR
	R29	QRD161J-102	RESISTOR
	R30	QRD161J-102	RESISTOR
	R31	QRD161J-102	RESISTOR
	R32	QRD161J-102	RESISTOR
	R33	QRD161J-473	RESISTOR
	R34	QRD161J-473	RESISTOR
	R35	QRD161J-222	RESISTOR
	R36	QRD161J-222	RESISTOR
	R37	QRD161J-222	RESISTOR
	R38	QRD161J-473	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R39	QRD161J-473	RESISTOR
	R40	QRD161J-222	RESISTOR
	R41	QRD161J-222	RESISTOR
	R42	QRD161J-222	RESISTOR
	R43	QRD161J-473	RESISTOR
	R44	QRD161J-473	RESISTOR
	R45	QRD161J-222	RESISTOR
	R46	QRD161J-222	RESISTOR
	R47	QRD161J-222	RESISTOR
	R50	QRD161J-102	RESISTOR
	R51	QRD161J-103	RESISTOR
	R52	QRD161J-103	RESISTOR
	R53	QRD161J-103	RESISTOR
	R54	QRD161J-104	RESISTOR
	R101	QRD161J-331	RESISTOR
	R102	QRD161J-331	RESISTOR
	R103	QRD161J-103	RESISTOR
	R104	QRD183J-102	RESISTOR
	R105	QRD183J-102	RESISTOR
	R106	QRD183J-102	RESISTOR
	R107	QRD161J-102	RESISTOR
	R108	QRG019J-561S	OMF RESISTOR
	R109	QRD161J-102	RESISTOR
	R110	QRG019J-561S	OMF RESISTOR
	R111	QRD161J-102	RESISTOR
	R112	QRG019J-561S	OMF RESISTOR
	R113	QRD161J-102	RESISTOR
	R114	QRD161J-102	RESISTOR
	R115	QRD161J-102	RESISTOR
	R116	QRD161J-220	RESISTOR
	R117	QRD161J-220	RESISTOR
	R118	QRD161J-220	RESISTOR
	R119	QRG019J-561S	OMF RESISTOR
	R120	QRG019J-561S	OMF RESISTOR
	R121	QRG019J-561S	OMF RESISTOR
	R122	QRD161J-102	RESISTOR
	R123	QRD161J-102	RESISTOR
	R124	QRD161J-102	RESISTOR
	R125	QRD161J-102	RESISTOR
	R201	QRD161J-223	RESISTOR
	R202	QRD161J-473	RESISTOR
	R203	QRD161J-392	RESISTOR
	R204	QRD161J-223	RESISTOR
	R205	QRD161J-103	RESISTOR
	R206	QRD161J-103	RESISTOR
	R207	QRD161J-105	RESISTOR
	R208	QRD161J-394	RESISTOR
	R209	QRD161J-224	RESISTOR
	R210	QRD161J-472	RESISTOR
	R211	QRD161J-472	RESISTOR
	R212	QRSA08J-272YN	RESISTOR
	R213	QRD161J-102	RESISTOR
	R214	QRG019J-561S	OMF RESISTER
	R215	QRD161J-103	RESISTOR
	R216	QRD161J-103	RESISTOR
	R217	QRD161J-103	RESISTOR
	R218	QRD161J-392	RESISTOR
	R219	QRD161J-223	RESISTOR
	R220	QRD161J-103	RESISTOR
	R221	QRD161J-103	RESISTOR
	R222	QRD161J-394	RESISTOR
	R223	QRD161J-105	RESISTOR
	R224	QRD161J-224	RESISTOR
	R225	QRSA08J-272YN	RESISTOR
	R226	QRD161J-102	RESISTOR
	R227	QRG019J-561S	OMF RESISTER
	R228	QRD161J-103	RESISTOR
	R229	QRD161J-103	RESISTOR
	R230	QRD161J-103	RESISTOR
	R231	QRD161J-392	RESISTOR
	R232	QRSA08J-224YN	RESISTOR
	R233	QRD161J-224	RESISTOR
	R234	QRD161J-224	RESISTOR
	R235	QRD161J-223	RESISTOR
	R236	QRD161J-221	RESISTOR
	R237	QRD161J-221	RESISTOR
	R238	QRD161J-223	RESISTOR
	R239	QRD161J-221	RESISTOR
	R240	QRD161J-221	RESISTOR
	R241	QRX019J-R47S	MF RESISTOR
	R242	QRD161J-102	RESISTOR
	R243	QRD161J-102	RESISTOR
	R244	QRX019J-R47S	MF RESISTOR
	R245	QRD161J-102	RESISTOR
	R246	QRD161J-102	RESISTOR
	R250	QRSA08J-0R0Y	RESISTOR
	R254	QRSA08J-0R0Y	RESISTOR
	RA1	EXB-P85103M	RESISTER ARRAY
	RA2	EXB-P83104M	RESISTOR ARRAY
	RA3	EXB-P84223M	RESISTOR ARRAY
	C1	QCF31HP-223	CAPACITOR
	C2	QETC1EM-476	E CAPACITOR
	C3	QETC1CM-476	E CAPACITOR
	C4	QCF31HP-223	CAPACITOR
	C5	QETC1CM-226	E CAPACITOR
	C6	QCF31HP-103	CAPACITOR
	C7	QCF31HP-103	CAPACITOR
	C8	QER51EM-475G	E CAPACITOR
	C9	QCF31HP-103	CAPACITOR
	C10	QCF31HP-103	CAPACITOR
	C11	QCF31HP-103	CAPACITOR
	C12	QCF31HP-223	CAPACITOR
	C13	QCF31HP-223	CAPACITOR
	C14	QCF31HP-103	CAPACITOR
	C15	QCF31HP-103	CAPACITOR
	C16	QETC1CM-106	E CAPACITOR
	C17	QETC1CM-106	E CAPACITOR
	C18	QETC1CM-106	E CAPACITOR
	C19	QETC1CM-476	E CAPACITOR
	C20	QCF31HP-223	CAPACITOR
	C21	QCF31HP-103	CAPACITOR
	C22	QETC1CM-476	E CAPACITOR
	C23	QETC1CM-106	E CAPACITOR
	C24	QCS31HJ-121	CAPACITOR
	C25	QCS31HJ-121	CAPACITOR
	C26	QCS31HJ-121	CAPACITOR
	C27	QCF31HP-103	CAPACITOR
	C101	QCF31HP-103	CAPACITOR
	C102	QCF31HP-223	CAPACITOR
	C103	QCF31HP-223	CAPACITOR
	C104	QETC1CM-476	E CAPACITOR
	C105	QETC1HM-104	E CAPACITOR
	C106	QETC1CM-226	E CAPACITOR
	C107	QETC1CM-226	E CAPACITOR
	C108	QETC1CM-226	E CAPACITOR
	C109	QETA1CM-227	E CAPACITOR
	C201	QETC1EM-227	E CAPACITOR
	C202	QCF31HP-223	CAPACITOR
	C203	QETC1EM-107	E CAPACITOR
	C204	QETC1EM-107	E CAPACITOR
	C205	QETC1EM-107	E CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C206	QCF31HP-103	CAPACITOR
	C207	QETC1EM-107	E CAPACITOR
	C208	QFN31HK-122	M CAPACITOR
	C209	QFN31HK-273	M CAPACITOR
	C210	QCF31HP-103	CAPACITOR
	C211	QETC1EM-107	E CAPACITOR
	C213	QETC1CM-107	E CAPACITOR
	C214	QCF31HP-103	CAPACITOR
	C215	QFN31HK-273	M CAPACITOR
	C216	QCF31HP-103	CAPACITOR
	C217	QETC1EM-107	E CAPACITOR
	C219	QETA1EM-477	E CAPACITOR
	C220	QCF31HP-223	CAPACITOR
	C221	QETC1CM-106	E CAPACITOR
	C222	QETA1EM-477	E CAPACITOR
	C223	QCF31HP-223	CAPACITOR
	C224	QETC1CM-106	E CAPACITOR
	C225	QCF31HP-103	CAPACITOR
	C226	QETC1EM-106	E CAPACITOR
	C227	QETC1EM-106	E CAPACITOR
	C228	QCF31HP-223	CAPACITOR
	C229	QCF31HP-103	CAPACITOR
	C230	QCF31HP-103	CAPACITOR
	L1	PU48530-221J	COIL
	L2	PGZ00480	C COIL
	L101	PGZ00480	C COIL
	L102	PU48530-221J	COIL
	L201	PU50277	COIL
	L202	PU48530-271J	COIL
	L203	PU48530-271J	COIL
	L204	PU48530-271J	COIL
	L205	PU48530-271J	COIL
	L206	PU50755	COIL
	L207	PU50755	COIL
⚠	K201	PGZ00354	FERRITE BEADS
	BKT1	PGD30371	MDA PWB BRACKET
⚠	HS1	PGD40689	HEAT SINK
	SCW1	SDSP3010Z	SCREW
	SCW2	GBST3006Z	SCREW, X2
	SPC1	PGZ00150	TRANSISTOR SPACER
	SPC2	PU41624-6	ISOLAT WASHER
	SPC3	PU43135-2-15	NYLON EDGGING
	TP201	PU54983	TEST PIN, X14
	CN1	PU58844-4R	CAP HOUSING
	CN2	PU58844-2	CAP HOUSING
	CN3	PU53587-2	CAP HOUSING
	CN4	PU43351-2R	CAP HOUSING
	CN5	PU58844-9	CAP HOUSING
	CN6	PU58844-3	CAP HOUSING
	CN7	PU43351-4	CAP HOUSING
	CN8	PU58844-4Y	CAP HOUSING
	CN9	PU58844-8	CAP HOUSING
	CN10	PU43351-2	CAP HOUSING
	CN12	PU43351-3R	CAP HOUSING
	CN13	PU43351-3Y	CAP HOUSING
	CN14	PU43351-3	CAP HOUSING
	CN21	PU58844-15	CAP HOUSING
	CN22	PU58844-6	CAP HOUSING
	CN23	PU58844-6R	CAP HOUSING

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	CN31	PU58844-10	CAP HOUSING
	CN32	PU58844-2R	CAP HOUSING
	CN33	PU58844-2	CAP HOUSING

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6.2.15 LED BOARD <15>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	HLD1	PQ30101A	LED HOLDER,INCL.LED BOARD
	D1	GL-450V	LE DIODE

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6.2.16 MOTHER BOARD ASSEMBLY <16>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK10009A-01	MOTHER BOARD AY,BR-S811E
		PRK10009B-01	MOTHER BOARD AY,BR-S611E
	BKT1	PGD40679-02	MOTHER BOARD BRACKET
	J2	PU58844-4	CAP HOUSING
	SCW1	GBST3008Z	SCREW, X5
	SLD1	PRD30446	INSULATOR(A)
	SLD2	PRD30447	INSULATOR(B)
	SLD3	PRD30448	INSULATOR(C)
	CN1	PGZ00420-100	FEMALE CONNECTOR
	CN2	PGZ00420-64	FEMALE CONNECTOR
	CN3	PGZ00420-100	FEMALE CONNECTOR
	CN4	PGZ00420-64	FEMALE CONNECTOR
	CN5	PGZ00420-100	FEMALE CONNECTOR
	CN6	PGZ00420-64	FEMALE CONNECTOR
	CN7	PGZ00420-100	FEMALE CONNECTOR
	CN8	PGZ00420-100	FEMALE CONNECTOR
	CN9	PGZ00420-64	FEMALE CONNECTOR
	CN10	PGZ00806-04	SMT HOUSING
	CN11	PGZ00806-04	SMT HOUSING
	CN13	PGZ00806-04	SMT HOUSING
	CN14	PGZ00806-04	SMT HOUSING
	CN15	PGZ00806-04	SMT HOUSING
	CN16	PGZ00806-04	SMT HOUSING
	CN17	PGZ00806-04	SMT HOUSING
	CN18	PGZ00806-04	SMT HOUSING
	CN19	PGZ00806-05	SMT HOUSING
	CN22	PGZ00806-05	SMT HOUSING
	CN23	PGZ00806-05	SMT HOUSING
	CN24	PGZ00806-04	SMT HOUSING
	CN25	PGZ00806-05	SMT HOUSING
	CN26	PGZ00806-04	SMT HOUSING
	CN27	PGZ00806-04	SMT HOUSING
	CN28	PGZ00806-04	SMT HOUSING
	CN29	PGZ00806-04	SMT HOUSING
	CN30	PU58844-3R	CAP HOUSING
	CN31	PU58844-3	CAP HOUSING
	CN32	PU58844-5	CAP HOUSING
	CN33	PU58844-7	CAP HOUSING
	CN34	PU58844-9	CAP HOUSING
	CN35	PU58844-10	CAP HOUSING
	CN36	PU58844-6R	CAP HOUSING
	CN37	PU58844-8	CAP HOUSING

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	CN38	PU58844-4Y	CAP HOUSING
	CN39	PU58844-4	CAP HOUSING
	CN40	PU58844-5R	CAP HOUSING
	CN41	PU58844-5	CAP HOUSING
	CN42	PU58844-5	CAP HOUSING
	CN43	PU58844-5R	CAP HOUSING
	CN44	PU58844-6R	CAP HOUSING
	CN45	PU58844-2	CAP HOUSING
	CN46	PU58844-3	CAP HOUSING
	CN47	PU58844-6	CAP HOUSING
	CN48	PU58844-4Y	CAP HOUSING
	CN49	PU58844-5	CAP HOUSING
		PU58844-3	CAP HOUSING
	CN50	PU58844-7	CAP HOUSING
	CN51	PU58844-5	CAP HOUSING
	CN52	PU58844-5Y	CAP HOUSING
	CN53	PU58844-4	CAP HOUSING
	CN55	PU58844-9	CAP HOUSING
	CN56	PU58844-4	CAP HOUSING
	CN57	PU58844-3	CAP HOUSING
	CN58	PU58844-3R	CAP HOUSING
	CN59	PGZ00806-04	SMT HOUSING
	CN60	PU58844-4	CAP HOUSING
	CN61	PU58844-9	CAP HOUSING
	CN63	PU58844-4	CAP HOUSING
	CN64	PU58844-6	CAP HOUSING
	CN66	PGZ00420-64	FEMALE CONNECTOR
	CN67	PGZ00420-64	FEMALE CONNECTOR
	CN68	PU58844-4R	CAP HOUSING
	CN69	PGZ00806-04	SMT HOUSING
	CN70	PGZ00806-04	SMT HOUSING
	CN71	PGZ00806-05	SMT HOUSING
	CN72	PGZ00806-04	SMT HOUSING
	CN75	PGZ00806-04	SMT HOUSING
	CN76	PGZ00806-04	SMT HOUSING
	CN77	PGZ00806-04	SMT HOUSING
	CN78	PGZ00806-04	SMT HOUSING
	CN81	PGZ00806-05	SMT HOUSING
	CN102	PU58844-4	CAP HOUSING,BR-S811E
	CN103	PU58844-5	CAP HOUSING
	CN104	PU58844-3	CAP HOUSING
	CN105	PU58844-6	CAP HOUSING
	CN106	PU58844-4	CAP HOUSING,BR-S811E
	CN107	PU58844-5	CAP HOUSING
	CN108	PU58844-5	CAP HOUSING
	CN109	PU58844-4	CAP HOUSING

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6.2.17 REGULATOR BOARD ASSEMBLY <17>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20155B	REGULATOR BOARD ASSY
⚠	IC1	STR2124	IC
⚠	IC2	STR2012A	IC
⚠	IC3	STR2012A	IC
⚠	IC4	UPC7815H	IC
⚠	IC5	NJM7809K	IC
⚠	Q1	2SD973AR	TRANSISTOR
	Q2	2SB793AR	TRANSISTOR
⚠	D1	U05E	DIODE
⚠	D2	U05E	DIODE
⚠	D3	U05E	DIODE
⚠	D4	U05E	DIODE
	D6	RD15EB	ZENER DIODE
	D7	RD11EB3	ZENER DIODE
⚠	DA1	S10VB10	DIODE
⚠	DA2	RB601F	DIODE
	DA3	DAN208	DIODE
	DA4	DAP208	DIODE
	R1	QRD167J-223	RESISTOR
	R3	QRD167J-272	RESISTOR
	R4	QRD167J-102	RESISTOR
	R5	QRD167J-102	RESISTOR
⚠	C1	QFH52AM-224	MM CAPACITOR
	C2	QETA1EM-337	E CAPACITOR
	C3	QCF11HP-223	CAPACITOR
	C4	QCF11HP-223	CAPACITOR
	C5	QETA1EM-337	E CAPACITOR
	C6	QCF11HP-223	CAPACITOR
	C7	QETA1EM-227	E CAPACITOR
	C8	QETA1CM-107	E CAPACITOR
	C9	QCF11HP-223	CAPACITOR
	C10	QETA1CM-107	E CAPACITOR
	C11	QCF11HP-223	CAPACITOR
	C12	QCF11HP-223	CAPACITOR
	C13	QETA1EM-227	E CAPACITOR
⚠	C14	QETA1CM-228	E CAPACITOR
⚠	C15	QFH52AM-224	MM CAPACITOR
⚠	C16	QETA1HM-477	E CAPACITOR
⚠	C17	QETA1VM-337	E CAPACITOR
⚠	C18	QCF11HP-223	CAPACITOR
⚠	C19	QETA1HM-477	E CAPACITOR
	C20	QCF11HP-223	CAPACITOR
	C21	QCF11HP-223	CAPACITOR
	C22	QETA1VM-337	E CAPACITOR
⚠	C23	QETA1VM-477	E CAPACITOR
	C24	QCF11HP-223	CAPACITOR
	C25	QETA1VM-108	E CAPACITOR
	C26	QCF11HP-223	CAPACITOR
	C27	QETA1VM-337	E CAPACITOR
	C28	QCF11HP-223	CAPACITOR
	C29	QETA1EM-107	E CAPACITOR
⚠	C30	QEL71VR-688	E CAPACITOR
⚠	C31	QEL71HR-478	E CAPACITOR
⚠	C32	QFH52AM-224	MM CAPACITOR
	C33	QETA1EM-107	E CAPACITOR
	C34	QETA1EM-106	E CAPACITOR
	C35	QETA1EM-476	E CAPACITOR
	C36	QETA1EM-106	E CAPACITOR
	C37	QCF11HP-223	CAPACITOR
	C38	QETA1EM-107	E CAPACITOR
	C39	QETA1VM-108	E CAPACITOR
⚠	C40	QETA1VM-108	E CAPACITOR
	C41	QCF11HP-223	CAPACITOR
	C42	QCF11HP-223	CAPACITOR
⚠	L1	PGZ00253-241	COIL
	L2	PGZ00253-241	COIL
	L3	PU56183-330	COIL
⚠	L4	PGZ00253-241	COIL
	L5	PGZ00253-241	COIL
	L6	PU56183-330	COIL
⚠	L7	PGZ00253-241	COIL
⚠	L8	PGZ00139-331	COIL
⚠	L9	PU56183-330	COIL
⚠	K1	PU56179	FERITE BEADS
⚠	K2	PU56179	FERITE BEADS

<17><18>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
⚠	K3	PU56179	FERITE BEADS
⚠	T1	PGZ00856	TRANSFORMER
⚠	HS1	PGD40223A	HEAT SINK, FOR IC1-3
⚠	HS2	PGD40694	HEAT SINK, FOR IC4,5
⚠	HS3	PGZ00951	HEAT SINK, FOR DA1
	SCW1	SDSP3010Z	SCREW, FOR IC1-3
	SCW2	SDSP3010Z	SCREW, FOR IC4,5
	SCW3	LPSP3014Z	SCREW, FOR DA1
⚠	SKT1	PU51212	FUSE CLIP, X22
	SPC1	PGZ00151	TR SPACER, FOR IC1-3
	TP1	PU54983	TEST PIN, X10
	CN1	PU43351-4	CAP HOUSING
	CN2	PU43351-4R	CAP HOUSING
	CN3	PU43351-2Y	CAP HOUSING
	CN4	PU43351-8R	CAP HOUSING
	CN5	PU43351-8	CAP HOUSING
	CN6	PU43351-2R	CAP HOUSING
	CN7	PU43351-4	CAP HOUSING
	CN8	PU43351-6R	CAP HOUSING
	CN9	PU43351-4R	CAP HOUSING
	CN10	PU43351-6	CAP HOUSING
	CN11	PU43351-4	CAP HOUSING
	CN12	PU43351-4	CAP HOUSING
	CN13	PU43351-2	CAP HOUSING
⚠	CN14	PU50597-3	CAP HOUSING
⚠	CN15	PU50597-3	CAP HOUSING
⚠	CN16	PU50597-3	CAP HOUSING
	CN17	PU43351-6	CAP HOUSING
	CN18	PU43351-3	CAP HOUSING
	CN19	PU43351-3R	CAP HOUSING
	CN20	PU43351-2	CAP HOUSING
	CN21	PU43351-2	CAP HOUSING
	CN22	PU43351-4Y	CAP HOUSING
	CN23	PU43351-4Y	CAP HOUSING

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6.2.18 CASSETTE HOUSING BOARD <18>

PWB	PGE40002	CASSETE HOUSING BOARD
Q1	PT-352V	PHOTO TRANSISTOR
CN1	PU43351-110	CAP HOUSING

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6.2.19 OPERATION-1 BOARD ASSEMBLY <19>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE10078A1	OPERATION-1 B.AY,BR-S811E
		PGE10078B1	OPERATION-1 B.AY,BR-S611E
	IC1	UPD6345GS	IC
	IC2	UPD6345GS	IC
	IC3	UPD6345GS	IC
	IC4	MN4021BS	IC
	IC5	MN4021BS	IC
	D1	DAN202K	DIODE ARRAY
	R1	QRSA08J-473YN	RESISTOR
	R2	NRS016J-151NZR	RESISTOR
	R4	NRS016J-151NZR	RESISTOR
	R5	QRSA08J-473YN	RESISTOR
	R6	NRS016J-330NZR	RESISTOR
	R7	QRSA08J-473YN	RESISTOR
	R8	NRS016J-151NZR	RESISTOR
	R9	QRSA08J-473YN	RESISTOR
	R10	NRS016J-151NZR	RESISTOR
	R11	QRSA08J-473YN	RESISTOR
	R12	NRS016J-151NZR	RESISTOR
	R13	QRSA08J-473YN	RESISTOR
	R15	QRSA08J-473YN	RESISTOR
	R18	NRS016J-151NZR	RESISTOR,BR-S611E
	R19	QRSA08J-473YN	RESISTOR
	R20	NRS016J-151NZR	RESISTOR,BR-S611E
	R23	QRSA08J-473YN	RESISTOR
	R24	NRS016J-151NZR	RESISTOR
	R25	QRSA08J-473YN	RESISTOR
	R26	NRS016J-330NZR	RESISTOR
	R27	QRSA08J-473YN	RESISTOR
	R28	NRS016J-151NZR	RESISTOR
	R29	QRSA08J-473YN	RESISTOR
	R30	NRS016J-151NZR	RESISTOR
	R31	QRSA08J-473YN	RESISTOR
	R32	NRS016J-151NZR	RESISTOR
	R33	QRSA08J-473YN	RESISTOR
	R34	NRS016J-330NZR	RESISTOR
	R35	QRSA08J-473YN	RESISTOR
	R36	NRS016J-151NZR	RESISTOR
	R37	QRSA08J-473YN	RESISTOR
	R38	NRS016J-151NZR	RESISTOR
	R41	QRSA08J-103YN	RESISTOR
	R42	QRSA08J-274YN	RESISTOR
	R43	QRSA08J-103YN	RESISTOR
	R44	QRSA08J-274YN	RESISTOR
	R45	QRSA08J-274YN	RESISTOR
	R46	QRSA08J-682YN	RESISTOR
	R47	QRSA08J-274YN	RESISTOR
	R48	QRSA08J-102YN	RESISTOR
	R56	QRSA08J-103YN	RESISTOR
	R57	QRSA08J-102YN	RESISTOR
	R58	QRSA08J-274YN	RESISTOR
	R59	QRSA08J-102YN	RESISTOR
	R61	QRSA08J-103YN	RESISTOR,BR-S611E
	R62	QRSA08J-274YN	RESISTOR
	R63	QRSA08J-473YN	RESISTOR
	R64	QRSA08J-223YN	RESISTOR
	R65	QRSA08J-103YN	RESISTOR
	C1	QCFA1EZ-104	CAPACITOR
	C2	QCFA1EZ-104	CAPACITOR
	C3	QCFA1EZ-104	CAPACITOR
	C4	QCFA1EZ-104	CAPACITOR
	C5	QCFA1EZ-104	CAPACITOR
	C6	QCFA1EZ-104	CAPACITOR
	C7	QCFA1EZ-104	CAPACITOR
	C8	QCFA1EZ-104	CAPACITOR,BR-S611E
	C10	QCFA1EZ-104	CAPACITOR,BR-S611E
	C12	QCFA1EZ-104	CAPACITOR
	C13	QCFA1EZ-104	CAPACITOR
	C14	QCFA1EZ-104	CAPACITOR
	C15	QCFA1EZ-104	CAPACITOR
	C16	QCFA1EZ-104	CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C17	QCFA1EZ-104	CAPACITOR
	C18	QCFA1EZ-104	CAPACITOR
	C19	QCFA1EZ-104	CAPACITOR
	C20	QCYA1HK-223	CAPACITOR
	C21	QCYA1HK-223	CAPACITOR
	C22	QER40JM-476	E CAPACITOR
	C23	QCYA1HK-223	CAPACITOR
	C24	QCYA1HK-223	CAPACITOR
	SW1	PGZ00763-02	SWITCH,ASSEMBLY,BR-S811E
	SW2	PGZ00901	SWITCH,V INS,BR-S811E
	SW3	PGZ00763-03	SWITCH,A1 INS,BR-S811E
	SW4	PGZ00763-03	SWITCH,A2 INS,BR-S811E
	SW5	PGZ00762-04-01	SWITCH,PREROLL,BR-S811E
	SW6	PGZ00762-08	SWITCH,E START,BR-S811E
	SW7	PGZ00762-04-01	SWITCH,E STOP,BR-S811E
	SW8	PGZ00762-08	SWITCH,AUD DUB,BR-S611E
	SW10	PGZ00762-04-01	SWITCH,PREROLL,BR-S611E
	SW12	PGZ00762-07	SWITCH,REC
	SW13	PGZ00762-01-01	SWITCH,PLAY
	SW14	PGZ00762-03-01	SWITCH,STILL/PAUSE
	SW15	PGZ00900-02	SWITCH,EJECT
	SW16	PGZ00762-02-01	SWITCH,REW
	SW17	PGZ00900	SWITCH,STOP
	SW18	PGZ00762-02-01	SWITCH,FF
	SW19	PGZ00762-04-01	SWITCH,SEARCH

6.2.20 OPERATION-2 BOARD ASSEMBLY <20>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE10078C2	OPERATION-2 BOARD ASSY
	IC1	UPD554C-058	IC
	IC2	UPD550C-055	IC
	IC3	TC4094BP	IC
	IC4	TC5022BP	IC
	IC5	TC5022BP	IC
	IC6	BU4001B	IC
	Q1	DTC124EF	TRANSISTOR
	Q2	DTA124EF	TRANSISTOR
	Q3	DTA114YF	TRANSISTOR
	Q4	DTC124EF	TRANSISTOR
	Q5	2SB739B,C	TRANSISTOR
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	D3	RD7.5EB3	ZENER DIODE
	D4	1SS133	DIODE
	D5	1SS133	DIODE
	D6	1SS133	DIODE
	D7	RD8.2EB2	ZENER DIODE
	R1	QRD161J-221	RESISTOR
	R2	QRD161J-222	RESISTOR
	R3	QRD161J-104	RESISTOR
	R4	QRD161J-332	RESISTOR
	R5	QRD161J-333	RESISTOR
	R6	QRD161J-333	RESISTOR
	R7	QRD161J-105	RESISTOR
	R8	QRD167J-104	RESISTOR
	R9	QRD161J-333	RESISTOR
	R10	QRD161J-105	RESISTOR
	R11	QRD161J-222	RESISTOR
	R12	QRD161J-333	RESISTOR
	R13	QRD161J-333	RESISTOR
	R14	QRD161J-391	RESISTOR
	R15	QRD161J-333	RESISTOR
	R16	QRD161J-222	RESISTOR
	R17	QRD161J-473	RESISTOR
	R18	QRD161J-333	RESISTOR
	R19	QRD161J-473	RESISTOR
	R20	QRD161J-684	RESISTOR
	R21	QRD161J-103	RESISTOR
	R22	QRD161J-104	RESISTOR
	R23	QRD161J-333	RESISTOR
	R24	QRD161J-104	RESISTOR
	R25	QRD161J-471	RESISTOR
	R26	QRD161J-471	RESISTOR
	R27	QRD161J-471	RESISTOR
	R28	QRD161J-471	RESISTOR
	R29	QRD161J-471	RESISTOR
	R30	QRD161J-471	RESISTOR
	R31	QRD161J-471	RESISTOR
	R32	QRD161J-471	RESISTOR
	R33	QRD161J-471	RESISTOR
	R34	QRD161J-471	RESISTOR
	R35	QRD161J-471	RESISTOR
	R36	QRD161J-471	RESISTOR
	R37	QRD161J-471	RESISTOR
	R38	QRD161J-471	RESISTOR
	R39	QRD123J-470S	RESISTOR
	R40	QRD161J-334	RESISTOR
	R41	QRD161J-334	RESISTOR
	R42	QRD161J-334	RESISTOR
	R43	QRD161J-271	RESISTOR
	R44	QRD161J-271	RESISTOR
	R45	QRD161J-271	RESISTOR
	R46	QRD161J-104	RESISTOR
	R47	QRD161J-104	RESISTOR
	RA1	EXB-P84104M	RESISTOR ARRAY
	RA2	EXB-P88334M	RESISTOR ARRAY
	RA3	EXB-P88334M	RESISTOR ARRAY
	C1	QER41CM-107	E CAPACITOR
	C2	QETA1CM-227	E CAPACITOR
	C3	PU58948-104	CAPACITOR
⚠	C4	QCS11HJ-471	CAPACITOR
⚠	C5	QCS11HJ-121	CAPACITOR
	C6	PU58948-104	CAPACITOR
⚠	C7	QCS11HJ-471	CAPACITOR
⚠	C8	QCS11HJ-121	CAPACITOR
	C9	QER41CM-106	E CAPACITOR
	C10	QCS11HJ-221	CAPACITOR
	C11	QFN41HJ-562	M CAPACITOR
	C12	QFN41HJ-392	M CAPACITOR
	C13	QFN41HJ-392	M CAPACITOR
	C14	QER41CM-106	E CAPACITOR
	C15	QER41CM-106	E CAPACITOR
	C16	QER41EM-475	E CAPACITOR
	C17	QEPA1HM-105	NP E CAPACITOR
	L1	PU48530-101K	COIL
⚠	CF1	PU50224	RESONATOR
⚠	CF2	PU50224	RESONATOR
	T1	PGZ00002	HEATER TRANS
	CN1	PU58844-4	CAP HOUSING
	CN2	PU58844-11	CAP HOUSING
	CN3	PU58844-6	CAP HOUSING

6.2.21 TERMINAL BOARD ASSEMBLY <21>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE30166A2	TERMINAL BOARD ASSY,BR-S811E
		PGE30174A2	TERMINAL BOARD ASSY,BR-S611E
⚠	VA1	PU49624-2	VARISTOR
	TP1	PGZ00761	TERMINAL, X2
	CN1	PU58844-2	CAP HOUSING
	CN2	PU58844-4	CAP HOUSING

* * *

6.2.22 SELECT SWITCH BOARD ASSEMBLY <22>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE30174A1	SELECT SWITCH B.AY,BR-S611E
		PGE30166A1	SELECT SWITCH B.AY,BR-S811E
	R1	QRD167J-681	RESISTOR
	SW1	PGZ00469	SLIDE SWITCH
	SW2	PGZ00469	SLIDE SWITCH
	SW3	PGZ00469	SLIDE SWITCH
	SW4	PGZ00469	SLIDE SWITCH
	SW5	PGZ00469	SLIDE SWITCH
	SW6	PGZ00469	SLIDE SWITCH
	SW7	PGZ00469	SLIDE SWITCH
	SW8	PGZ00470	SLIDE SWITCH
	SW9	PGZ00470	SLIDE SWITCH
	SW10	PGZ00470	SLIDE SWITCH
	SW11	PGZ00469	SLIDE SWITCH
	CN1	PU58844-7	CAP HOUSING
	CN2	PU58844-5	CAP HOUSING
	CN3	PU58844-5Y	CAP HOUSING
	CN4	PU58844-4	CAP HOUSING

* * *

6.2.23 VR BOARD ASSEMBLY <23>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE30127A	VR BOARD ASSY
	R1	PGZ00745	V RESISTOR
	R2	QRD167J-221	RESISTOR
	R3	PGZ00215	V RESISTOR
	R4	PGZ00422	V RESISTOR
	R5	QRD167J-0R0	RESISTOR
	R6	PGZ00422	V RESISTOR
	R7	QRD167J-0R0	RESISTOR
	R8	PGZ00422	V RESISTOR
	R9	QRD167J-0R0	RESISTOR
	R10	PGZ00422	V RESISTOR
	R11	QRD167J-0R0	RESISTOR
	CN1	PU58844-3	CAP HOUSING
	CN2	PU58844-3R	CAP HOUSING
	CN3	PU58844-4Y	CAP HOUSING
	CN4	PU58844-4R	CAP HOUSING
	CN5	PU58844-4	CAP HOUSING
	CN6	PU58844-4	CAP HOUSING

* * *

6.2.24 JOG BOARD ASSEMBLY <24>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE30105A-01	JOG BOARD ASSY
	IC1	TC4584BP	IC
	R1	QRS188J-271YN	RESISTOR
	R2	QRSA08J-122YN	RESISTOR
	R3	QRS188J-271YN	RESISTOR
	R4	QRSA08J-122YN	RESISTOR
	R5	QRS188J-271YN	RESISTOR
	R6	QRSA08J-122YN	RESISTOR
	R7	QRS188J-271YN	RESISTOR
	R8	QRSA08J-561YN	RESISTOR
	R9	QRS188J-271YN	RESISTOR
	R10	QRSA08J-561YN	RESISTOR
	C1	QER41EM-475	E CAPACITOR
	C2	QCF11HP-103	CAPACITOR
	PHS1	GP2L04B	PHOTO SENSOR
	PHS2	GP2L04B	PHOTO SENSOR
	PHS3	GP2L04B	PHOTO SENSOR
	PHS4	GP2L04B	PHOTO SENSOR
	PHS5	GP2L04B	PHOTO SENSOR
	CN1	PU58844-9	CAP HOUSING

* * *

6.2.25 DIRECTION LED BOARD ASSEMBLY <26>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE10078A4	DIRECTION LED BOARD ASSY
	D1	SLB-55MG3F	LE DIODE
	D2	SLB-55VR3F	LE DIODE
	D3	SLB-55MG3F	LE DIODE
	R1	QRD167J-271	RESISTOR
	R2	QRD167J-271	RESISTOR
	R3	QRD167J-271	RESISTOR
	HD1	PQ40795-5-2	LED HOLDER

* * *

6.2.26 LOADING/UNLOADING SWITCH BOARD <27>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWB	PGE40069-1-1	LOAD/UNLOAD SWITCH BOARD

6.2.27 45PIN CONNECTOR BOARD ASSEMBLY <28>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20157A-04	45P CONNECTOR BOARD ASSY
	IC1	TC4021BP	IC
	IC2	TC4021BP	IC
	IC3	UPD6345C	IC
	Q1	DTC144EK	TRANSISTOR
	Q2	DTC144EK	TRANSISTOR
	Q3	DTC144EK	TRANSISTOR
	D1	DA204K	DIODE
	R1	QRSA08J-103YN	RESISTOR
	R2	QRSA08J-103YN	RESISTOR
	R3	QRSA08J-103YN	RESISTOR
	R4	QRSA08J-103YN	RESISTOR
	R5	QRSA08J-103YN	RESISTOR
	R6	QRSA08J-103YN	RESISTOR
	R7	QRSA08J-103YN	RESISTOR
	R15	QRSA08J-103YN	RESISTOR
	R16	QRSA08J-103YN	RESISTOR
	R17	QRSA08J-103YN	RESISTOR
	R18	QRSA08J-103YN	RESISTOR
	R19	QRSA08J-103YN	RESISTOR
	R20	QRSA08J-103YN	RESISTOR
	R21	QRSA08J-103YN	RESISTOR
	R29	QRD167J-271	RESISTOR
	R30	QRD167J-271	RESISTOR
	R31	QRD167J-271	RESISTOR
	R32	QRD167J-271	RESISTOR
	R33	QRD167J-271	RESISTOR
	R34	QRD167J-334	RESISTOR
	R35	QRD167J-334	RESISTOR
	R36	QRD167J-334	RESISTOR
	R37	QRD167J-334	RESISTOR
	R38	QRD167J-103	RESISTOR
	R39	QRSA08J-101YN	RESISTOR
	R40	QRSA08J-101YN	RESISTOR
	R41	QRSA08J-101YN	RESISTOR
	R42	QRSA08J-101YN	RESISTOR
	R43	QRSA08J-101YN	RESISTOR
	R44	QRSA08J-101YN	RESISTOR
	R45	QRSA08J-101YN	RESISTOR
	R46	QRSA08J-101YN	RESISTOR
	R47	QRSA08J-101YN	RESISTOR
	R48	QRSA08J-101YN	RESISTOR
	R49	QRSA08J-101YN	RESISTOR
	R50	QRSA08J-101YN	RESISTOR
	R51	QRSA08J-101YN	RESISTOR
	R52	QRSA08J-101YN	RESISTOR
	R53	QRSA08J-102YN	RESISTOR
	R54	QRSA08J-102YN	RESISTOR
	R55	QRSA08J-102YN	RESISTOR
	R56	QRSA08J-102YN	RESISTOR
	R57	QRSA08J-102YN	RESISTOR
	R58	QRSA08J-102YN	RESISTOR
	R59	QRSA08J-102YN	RESISTOR
	R60	QRSA08J-102YN	RESISTOR
	R61	QRSA08J-102YN	RESISTOR
	R62	QRSA08J-102YN	RESISTOR
	R63	QRSA08J-102YN	RESISTOR
	R64	QRSA08J-102YN	RESISTOR
	R65	QRSA08J-101YN	RESISTOR
	RA1	EXB-P87104M	RESISTOR ARRAY
	RA2	EXB-P87104M	RESISTOR ARRAY
	C1	QFN31HJ-103	M CAPACITOR
	C2	QFN31HJ-103	M CAPACITOR
	C3	QFN31HJ-103	M CAPACITOR
	C4	QFN31HJ-334	M CAPACITOR
	C5	QETC1CM-227	E CAPACITOR
	C7	QCF11HP-103	CAPACITOR
	C8	QCF11HP-103	CAPACITOR
	C9	QCF11HP-103	CAPACITOR
	C10	QCF11HP-103	CAPACITOR
	C11	QCF11HP-103	CAPACITOR
	C12	QCF11HP-103	CAPACITOR
	C13	QCF11HP-103	CAPACITOR
	C14	QCF11HP-103	CAPACITOR
	C15	QCF11HP-103	CAPACITOR
	C16	QCF11HP-103	CAPACITOR
	C17	QCF11HP-103	CAPACITOR
	C18	QCS11HJ-121	CAPACITOR
	C19	QCS11HJ-121	CAPACITOR
	C20	QCS11HJ-121	CAPACITOR
	SW1	QSS1A12-L02	SLIDE SWITCH
⚠	K1	PGZ00354	FERRITE BEADS
	BKT1	PRD42225-01-02	45PIN BRACKET
	SCW1	SPSP2608Z	SCREW, X2
	VA1	PGZ00753	CHIP VARISTOR
	VA2	PGZ00753	CHIP VARISTOR
	VA3	PGZ00753	CHIP VARISTOR
	VA4	PGZ00753	CHIP VARISTOR
	VA5	PGZ00753	CHIP VARISTOR
	VA6	PGZ00753	CHIP VARISTOR
	VA7	PGZ00753	CHIP VARISTOR
	VA8	PGZ00753	CHIP VARISTOR
	VA9	PGZ00753	CHIP VARISTOR
	VA10	PGZ00753	CHIP VARISTOR
	VA11	PGZ00753	CHIP VARISTOR
	VA12	PGZ00753	CHIP VARISTOR
	VA13	PGZ00753	CHIP VARISTOR
	VA14	PGZ00753	CHIP VARISTOR
	VA15	PGZ00753	CHIP VARISTOR
	VA16	PGZ00753	CHIP VARISTOR
	VA17	PGZ00753	CHIP VARISTOR
	VA18	PGZ00753	CHIP VARISTOR
	VA19	PGZ00753	CHIP VARISTOR
	VA20	PGZ00753	CHIP VARISTOR
	VA21	PGZ00753	CHIP VARISTOR
	VA22	PGZ00753	CHIP VARISTOR
	VA23	PGZ00753	CHIP VARISTOR
	VA24	PGZ00753	CHIP VARISTOR
	VA25	PGZ00753	CHIP VARISTOR
	VA26	PGZ00753	CHIP VARISTOR
	VA27	PGZ00753	CHIP VARISTOR
	VA28	PGZ00753	CHIP VARISTOR
	VA29	PGZ00753	CHIP VARISTOR
	VA30	PGZ00753	CHIP VARISTOR
	VA31	PGZ00753	CHIP VARISTOR
	VA32	PGZ00753	CHIP VARISTOR
	VA33	PGZ00753	CHIP VARISTOR
	VA34	PGZ00753	CHIP VARISTOR
	VA35	PGZ00753	CHIP VARISTOR
	VA36	PGZ00753	CHIP VARISTOR

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	VA37	PGZ00753	CHIP VARISTOR
	VA38	PGZ00753	CHIP VARISTOR
	VA39	PGZ00753	CHIP VARISTOR
	VA40	PGZ00753	CHIP VARISTOR
	VA41	PGZ00753	CHIP VARISTOR
	VA42	PGZ00753	CHIP VARISTOR
	CN1	PU58844-107	CAP HOUSING
	CN2	PU58844-109	CAP HOUSING
	CN3	PU58844-105	CAP HOUSING
	CN4	PU58844-104	CAP HOUSING
	CN5	PU58844-103	CAP HOUSING
	CN6	PU44246-9-10	45PIN CONNECTOR

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6.2.28 REAR BOARD ASSEMBLY <29>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK10012A2	REAR BOARD ASSY
	IC101	TK15021	IC
	IC102	TK15021	IC
	IC103	NJM2068S-D	IC
	IC104	UPC78N12H	IC
	IC105	TA79L012P	IC
	IC106	M5201L	IC
	IC107	M5201L	IC
	IC108	TK15021	IC
	IC109	TC4066BP	IC
	IC110	M5220L	IC
	IC111	M5220L	IC
	IC113	NJM4556S	IC
	IC114	NJM4556S	IC
	IC115	NJM4556S	IC
	IC116	NJM4556S	IC
	IC117	M5220L	IC
	Q101	2SD1423(S)	TRANSISTOR
	Q102	2SD1423(S)	TRANSISTOR
	Q103	2SD1423(S)	TRANSISTOR
	Q104	2SD1423(S)	TRANSISTOR
	Q105	DTA124ES	TRANSISTOR
	Q106	DTA124ES	TRANSISTOR
	Q107	2SD1423(S)	TRANSISTOR
	Q108	2SD1423(S)	TRANSISTOR
	Q109	DTA124ES	TRANSISTOR
	Q110	DTA124ES	TRANSISTOR
	Q113	2SD1423(S)	TRANSISTOR
	Q114	2SD1423(S)	TRANSISTOR
	Q116	2SD1423(S)	TRANSISTOR
	Q117	DTC323TS	TRANSISTOR
	Q118	DTC323TS	TRANSISTOR
	Q119	DTA124ES	TRANSISTOR
	Q120	DTA124ES	TRANSISTOR
	Q121	DTA124ES	TRANSISTOR
	Q122	DTA124ES	TRANSISTOR
	Q123	2SD1423(S)	TRANSISTOR
	Q124	2SD1423(S)	TRANSISTOR
	Q125	DTC114TS	TRANSISTOR
	Q126	DTC114TS	TRANSISTOR
	Q127	2SD1423(S)	TRANSISTOR
	Q128	2SD1423(S)	TRANSISTOR
	Q131	DTC323TS	TRANSISTOR
	Q132	DTC323TS	TRANSISTOR
	Q133	DTC323TS	TRANSISTOR
	Q134	DTC323TS	TRANSISTOR
	Q135	DTC323TS	TRANSISTOR
	Q136	DTC323TS	TRANSISTOR
	Q137	DTC323TS	TRANSISTOR
	Q138	DTC323TS	TRANSISTOR
	Q139	DTA124ES	TRANSISTOR
	Q140	DTC114TS	TRANSISTOR
	Q141	2SD1423(S)	TRANSISTOR
	Q142	2SD1423(S)	TRANSISTOR
	D101	0A90	DIODE
	D102	0A90	DIODE
	D103	0A90	DIODE
	D104	0A90	DIODE
	D105	RD2.7EB	DIODE
	D106	RD2.7EB	DIODE
	D107	RD7.5EB2	ZENER DIODE
	DA101	DAN209S	DIODE
	DA102	DAN209S	DIODE
	DA103	DAN209S	DIODE
	DA104	DAN209S	DIODE
	R101	QRD161J-223	RESISTOR
	R102	QRD161J-223	RESISTOR
	R103	QRD161J-223	RESISTOR
	R104	QRD161J-223	RESISTOR
	R105	QRD161J-103	RESISTOR
	R106	QRD161J-103	RESISTOR
	R107	QRD161J-103	RESISTOR
	R108	QRD161J-103	RESISTOR
	R111	QRD161J-102	RESISTOR
	R112	QRD161J-102	RESISTOR
	R113	QRD161J-332	RESISTOR
	R114	QRD161J-332	RESISTOR
	R115	QRD161J-223	RESISTOR
	R116	QRD161J-223	RESISTOR
	R117	QRD161J-103	RESISTOR
	R118	QRD161J-103	RESISTOR
	R119	QRD161J-223	RESISTOR
	R120	QRD161J-223	RESISTOR
	R121	QRD161J-102	RESISTOR
	R122	QRD161J-102	RESISTOR
	R123	QRD161J-683	RESISTOR
	R124	QRD161J-683	RESISTOR
	R125	QRD161J-102	RESISTOR
	R126	QRD161J-102	RESISTOR
	R127	QRD161J-102	RESISTOR
	R128	QRD161J-102	RESISTOR
	R129	QRD161J-104	RESISTOR
	R130	QRD161J-104	RESISTOR
	R131	QRD161J-104	RESISTOR
	R132	QRD161J-104	RESISTOR
	R133	QRD161J-473	RESISTOR
	R134	QRD161J-473	RESISTOR
	R135	QRD161J-822	RESISTOR
	R136	QRD161J-822	RESISTOR
	R137	QRD161J-473	RESISTOR
	R138	QRD161J-473	RESISTOR
	R139	QRD161J-333	RESISTOR
	R140	QRD161J-333	RESISTOR
	R141	QRD161J-102	RESISTOR
	R142	QRD161J-102	RESISTOR
	R143	QRD161J-154	RESISTOR
	R144	QRD161J-154	RESISTOR
⚠	R145	PU52108-1R0	POSITIVE THERMISTOR
⚠	R146	PU52108-1R0	POSITIVE THERMISTOR
	R147	QRD161J-153	RESISTOR
	R148	QRD161J-153	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R161	QRD161J-102	RESISTOR
	R162	QRD161J-102	RESISTOR
	R163	QRD161J-104	RESISTOR
	R164	QRD161J-104	RESISTOR
	R165	QRD161J-331	RESISTOR
	R166	QRD161J-331	RESISTOR
	R167	QRD161J-333	RESISTOR
	R168	QRD161J-333	RESISTOR
	R169	QRD161J-333	RESISTOR
	R170	QRD161J-333	RESISTOR
	R171	QRD161J-472	RESISTOR
	R172	QRD161J-472	RESISTOR
	R173	QRD161J-273	RESISTOR
	R174	QRD161J-273	RESISTOR
	R175	QRD161J-333	RESISTOR
	R176	QRD161J-333	RESISTOR
	R177	QRD161J-333	RESISTOR
	R178	QRD161J-102	RESISTOR
	R179	QRD161J-683	RESISTOR
	R180	QRD161J-102	RESISTOR
	R181	QRD161J-273	RESISTOR
	R182	QRD161J-273	RESISTOR
	R183	QRD161J-563	RESISTOR
	R184	QRD161J-563	RESISTOR
	R185	QRD161J-563	RESISTOR
	R186	QRD161J-563	RESISTOR
	R187	QRD161J-561	RESISTOR
	R188	QRD161J-561	RESISTOR
	R193	QRD161J-103	RESISTOR
	R194	QRD161J-103	RESISTOR
	R195	QRD161J-102	RESISTOR
	R196	QRD161J-102	RESISTOR
	R197	QRD161J-473	RESISTOR
	R198	QRD161J-473	RESISTOR
	R199	QRD161J-473	RESISTOR
	R200	QRD161J-473	RESISTOR
	R201	QRD161J-822	RESISTOR
	R202	QRD161J-822	RESISTOR
	R203	QRD161J-333	RESISTOR
	R204	QRD161J-333	RESISTOR
	R205	QRD161J-102	RESISTOR
	R206	QRD161J-102	RESISTOR
	R207	QRD161J-154	RESISTOR
	R208	QRD161J-154	RESISTOR
	R209	QRD161J-331	RESISTOR
	R210	QRD161J-331	RESISTOR
	R211	QRD161J-683	RESISTOR
	R212	QRD161J-683	RESISTOR
	R213	QRD161J-102	RESISTOR
	R214	QRD161J-102	RESISTOR
	R215	QRD161J-473	RESISTOR
	R216	QRD161J-473	RESISTOR
	R217	QRD161J-473	RESISTOR
	R218	QRD161J-473	RESISTOR
	R219	QRV141F-1212AY	CMF RESISTOR
	R220	QRV141F-1212AY	CMF RESISTOR
	R221	QRV141F-1212AY	CMF RESISTOR
	R222	QRV141F-1212AY	CMF RESISTOR
	R223	QRV141F-1212AY	CMF RESISTOR
	R224	QRV141F-1212AY	CMF RESISTOR
	R225	QRV141F-1212AY	CMF RESISTOR
	R226	QRV141F-1212AY	CMF RESISTOR
	R227	QRV141F-1212AY	CMF RESISTOR
	R228	QRV141F-1212AY	CMF RESISTOR
	R229	QRV141F-1212AY	CMF RESISTOR
	R230	QRV141F-1212AY	CMF RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R231	QRV141F-1212AY	CMF RESISTOR
	R232	QRV141F-1212AY	CMF RESISTOR
	R233	QRV141F-1212AY	CMF RESISTOR
	R234	QRV141F-1212AY	CMF RESISTOR
	R235	QRV141F-1212AY	CMF RESISTOR
	R236	QRV141F-1212AY	CMF RESISTOR
	R237	QRV141F-1212AY	CMF RESISTOR
	R238	QRV141F-1212AY	CMF RESISTOR
	R239	QRV141F-1212AY	CMF RESISTOR
	R240	QRV141F-1212AY	CMF RESISTOR
	R241	QRV141F-1212AY	CMF RESISTOR
	R242	QRV141F-1212AY	CMF RESISTOR
	R243	QRV141F-1332AY	CMF RESISTOR
	R244	QRV141F-1332AY	CMF RESISTOR
	R245	QRV141F-1332AY	CMF RESISTOR
	R246	QRV141F-1332AY	CMF RESISTOR
	R247	QVZ3524-222	V RESISTOR
	R248	QVZ3524-222	V RESISTOR
	R249	QVZ3524-222	V RESISTOR
	R250	QVZ3524-222	V RESISTOR
	R251	QRV141F-1741AY	CMF RESISTOR
	R252	QRV141F-1741AY	CMF RESISTOR
	R253	QRV141F-1741AY	CMF RESISTOR
	R254	QRV141F-1741AY	CMF RESISTOR
	R255	QRV141F-1332AY	CMF RESISTOR
	R256	QRV141F-1332AY	CMF RESISTOR
	R257	QRV141F-1332AY	CMF RESISTOR
	R258	QRV141F-1332AY	CMF RESISTOR
	R259	QRV141F-47R5AY	CMF RESISTOR
	R260	QRV141F-47R5AY	CMF RESISTOR
	R261	QRV141F-47R5AY	CMF RESISTOR
	R262	QRV141F-47R5AY	CMF RESISTOR
	R263	QRV141F-47R5AY	CMF RESISTOR
	R264	QRV141F-47R5AY	CMF RESISTOR
	R265	QRV141F-47R5AY	CMF RESISTOR
	R266	QRV141F-47R5AY	CMF RESISTOR
	R267	QRD161J-103	RESISTOR
	R268	QRD161J-103	RESISTOR
	R269	QRD161J-103	RESISTOR
	R270	QRD161J-103	RESISTOR
	R271	QRD161J-103	RESISTOR
	R272	QRD161J-103	RESISTOR
	R273	QRD161J-103	RESISTOR
	R274	QRD161J-103	RESISTOR
	R281	QRD161J-332	RESISTOR
	R282	QRD161J-332	RESISTOR
	R289	QRD161J-473	RESISTOR
	R291	QRV141F-8251AY	CMF RESISTOR
	R292	QRV141F-8251AY	CMF RESISTOR
	R293	QRV141F-8251AY	CMF RESISTOR
	R294	QRV141F-8251AY	CMF RESISTOR
	C101	QER41EM-475	E CAPACITOR
	C102	QER41EM-475	E CAPACITOR
	C103	QER41EM-475	E CAPACITOR
	C104	QER41EM-475	E CAPACITOR
	C105	QER41EM-475	E CAPACITOR
	C106	QER41EM-475	E CAPACITOR
	C107	QER41EM-475	E CAPACITOR
	C108	QER41EM-475	E CAPACITOR
	C109	QEK41CM-107	E CAPACITOR
	C110	QEK41CM-107	E CAPACITOR
	C111	QER41CM-226	E CAPACITOR
	C112	QER41CM-226	E CAPACITOR
	C113	QER41CM-226	E CAPACITOR
	C114	QER41CM-226	E CAPACITOR
	C115	QEPA1CM-226	NP E CAPACITOR

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*△	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C116	QEPA1CM-226	NP E CAPACITOR
	C117	QCSB1HJ-220	CAPACITOR
	C118	QCSB1HJ-220	CAPACITOR
	C119	QEK41CM-107	E CAPACITOR
	C120	QEK41CM-107	E CAPACITOR
	C123	QER41EM-475	E CAPACITOR
	C124	QER41EM-475	E CAPACITOR
	C125	QER41CM-106	E CAPACITOR
	C126	QER41CM-106	E CAPACITOR
	C127	QETA1EM-107	E CAPACITOR
	C128	QETA1EM-107	E CAPACITOR
	C129	QEK41CM-107	E CAPACITOR
	C130	QEK41CM-107	E CAPACITOR
	C131	QCVB1CM-103	CAPACITOR
	C132	QCVB1CM-103	CAPACITOR
	C133	QCVB1CM-103	CAPACITOR
	C134	QCVB1CM-103	CAPACITOR
	C137	QETA1EM-107	E CAPACITOR
	C138	QETA1EM-107	E CAPACITOR
	C147	QER41EM-475	E CAPACITOR
	C148	QER41EM-475	E CAPACITOR
	C149	QER41EM-475	E CAPACITOR
	C150	QER41EM-475	E CAPACITOR
	C151	QEK41CM-107	E CAPACITOR
	C153	QCBB1HJ-561	CAPACITOR
	C154	QCBB1HJ-561	CAPACITOR
	C155	QEPA1CM-106	NP E CAPACITOR
	C156	QEPA1CM-106	NP E CAPACITOR
	C157	QEK41CM-107	E CAPACITOR
	C158	QEK41CM-107	E CAPACITOR
	C159	QCSB1HJ-150	CAPACITOR
	C160	QEPA1CM-106	NP E CAPACITOR
	C161	QCSB1HJ-150	CAPACITOR
	C162	QER41CM-226	E CAPACITOR
	C163	QER41EM-475	E CAPACITOR
	C164	QER41EM-475	E CAPACITOR
	C165	QER41CM-106	E CAPACITOR
	C166	QER41CM-106	E CAPACITOR
	C167	QER41CM-226	E CAPACITOR
	C168	QER41CM-226	E CAPACITOR
	C169	QER41CM-226	E CAPACITOR
	C170	QER41CM-226	E CAPACITOR
	C171	QEPA1CM-226	NP E CAPACITOR
	C172	QEPA1CM-226	NP E CAPACITOR
	C173	QFN31HJ-472	M CAPACITOR
	C174	QFN31HJ-472	M CAPACITOR
	C175	QEPA1CM-226	NP E CAPACITOR
	C176	QEPA1CM-226	NP E CAPACITOR
	C177	QEPA1CM-226	NP E CAPACITOR
	C178	QEPA1CM-226	NP E CAPACITOR
	C179	QETA1EM-107	E CAPACITOR
	C180	QETA1EM-107	E CAPACITOR
	C181	QETA1EM-107	E CAPACITOR
	C182	QETA1EM-107	E CAPACITOR
	C183	QETA1EM-107	E CAPACITOR
	C184	QETA1EM-107	E CAPACITOR
	C185	QETA1EM-107	E CAPACITOR
	C186	QETA1EM-107	E CAPACITOR
	C195	QETA1EM-107	E CAPACITOR
	C196	QETA1EM-107	E CAPACITOR
	C197	QETA1EM-107	E CAPACITOR
	C198	QETA1EM-107	E CAPACITOR
	C199	QETA1EM-107	E CAPACITOR
	C200	QETA1EM-107	E CAPACITOR
	C201	QETA1EM-107	E CAPACITOR
	C202	QETA1EM-107	E CAPACITOR
	C203	QETA1EM-107	E CAPACITOR
	C204	QETA1EM-107	E CAPACITOR
	C205	QETA1EM-107	E CAPACITOR
	C206	QETA1EM-107	E CAPACITOR
	C207	QEK41CM-107	E CAPACITOR
	C208	QEK41CM-107	E CAPACITOR
	C209	QCSB1HK-8R2	CAPACITOR
	C210	QCSB1HK-8R2	CAPACITOR
	C211	QCSB1HJ-560	CAPACITOR
	C212	QCSB1HJ-560	CAPACITOR
	C213	QCSB1HJ-560	CAPACITOR
	C214	QCSB1HJ-560	CAPACITOR
	C215	QEK41CM-107	E CAPACITOR
	SW1	PGZ00470-02	SLIDE SWITCH
	SW2	PGZ00470-02	SLIDE SWITCH
	SW3	PGZ00742-02	SLIDE SWITCH
	SW4	PGZ00742-02	SLIDE SWITCH
	SW5	PGZ01210	SLIDE SWITCH
	SW6	PGZ01210	SLIDE SWITCH
	CN12	PU58844-4	CAP HOUSING
	CN14	PU58844-3R	CAP HOUSING
	CN15	PU58844-5Y	CAP HOUSING
	CN16	PU58844-4Y	CAP HOUSING
	CN17	PU58844-4R	CAP HOUSING
	CN18	PU58844-4	CAP HOUSING
	CN19	PU58844-4Y	CAP HOUSING
	CN20	PU58844-3	CAP HOUSING
	CN21	PU58844-5R	CAP HOUSING
	CN22	PU58844-5	CAP HOUSING
	CN27	PU58844-3Y	CAP HOUSING

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6.2.29 FRONT LED BOARD ASSEMBLY <30>

REF NO.	PART NO.	PART NAME, DESCRIPTION
PWBA	PGE40203A-02	FRONT LED B.ASSY,BR-S611E
	PGE40248A	FRONT LED B.ASSY,BR-S811E
D1	GL-9NG2	LE DIODE
D2	GL-9NG2	LE DIODE
D3	GL-9NG2	LE DIODE
D4	GL-9NG2	LE DIODE,BR-S811E
D5	GL-9HY26	LE DIODE
D6	GL-9NG2	LE DIODE,BR-S611E
	TLYG208	LED(G/Y),BR-S811E
R1	QRD167J-681	RESISTOR
SW1	PGZ00742	SLIDE SWITCH
SW2	PGZ00469	SLIDE SWITCH
SW3	PGZ00470	SLIDE SWITCH
SW4	PGZ00469	SLIDE SWITCH
HD1	PQ40795-5-2	LED HOLDER, X5
HD2	PQ40795-4-2	LED HOLDER,BR-S811E
SPC1	PU52890	LED SPACER, X5

6.2.30 COUNTER BOARD ASSEMBLY <31>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE10078A3-01	COUNTER BOARD ASSY
	D1	LA-301YL	LED DISPLAY
	D2	LA-301YL	LED DISPLAY
	D3	SLV-31MC3F	LE DIODE
	D4	SLV-31MC3F	LE DIODE
	D5	SLV-31MC3F	LE DIODE
	D6	GL-9PR2	LE DIODE
	D7	GL-9PR2	LE DIODE
	R1	QRD121J-820S	RESISTOR
	R2	QRD161J-102	RESISTOR
	R3	QRD161J-102	RESISTOR
	SW1	PGZ00029	PUSH SWITCH,RESET
	FDP1	PGZ01245	FLUORESCENT DISPLAY PANEL
	HD1	PQ40795-5-2	LED HOLDER,FOR D6,D7
		PU50515-01-02	DISPLAY HOLDER,FOR FDP
	SCW1	SDSA2606Z	SCREW, X2
	SKT1	PGZ00803-05	SOCKET
	SPC1	PQ31858	SHADE
		PU52427	LED SPACER,FOR D6,D7

* * *

6.2.31 A/C HEAD BOARD <35>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWB	PGE40286	A/C HEAD BOARD
	R1	QRD167J-100	RESISTOR
	R2	QRD167J-100	RESISTOR
	CN1	PU49215-104	CAP HOUSING

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6.2.32 BR-S811E COLOUR FRAME SERVO BOARD ASSY <36>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE10101A-01	CF SERVO BOARD AY
	IC1	MN4085BS	IC
	IC2	MN4069UBS	IC
	IC3	MN4071BS	IC
	IC4	MN4082BS	IC
	IC5	MN4584BS	IC
	IC6	MN4013BS	IC
	IC7	MN4538BS	IC
	IC8	MN4085BS	IC
	IC9	MN4081BS	IC
	IC10	MN4085BS	IC
	IC12	MN74HC4040S	IC
	IC13	MN4001BS	IC
	IC14	MN4071BS	IC
	IC15	MN4015BS	IC
	IC16	MN4013BS	IC
	IC17	MN4069UBS	IC
	IC18	MN4015BS	IC
	IC19	MN4040BS	IC
	IC20	MN4013BS	IC
	IC21	MN4013BS	IC
	IC22	MN40161BS	IC
	IC23	MN4584BS	IC
	IC24	MN4017BS	IC
	IC25	MN4013BS	IC
	IC26	MN4001BS	IC
	IC27	MN4013BS	IC
	IC28	MN4015BS	IC
	IC29	MN4069UBS	IC
	IC30	MN4017BS	IC
	IC31	MN4538BS	IC
	IC32	MN4001BS	IC
	IC33	MN4584BS	IC
	IC34	BA401	IC
	IC35	BA401	IC
	IC37	TC40103BP	IC
	IC38	MN4081BS	IC
	IC39	MN4013BS	IC
	IC40	MN74HC04S	IC
	IC41	MN4013BS	IC
	Q1	DTA124EK	TRANSISTOR
	Q2	DTA124EK	TRANSISTOR
	Q3	DTC144EK	TRANSISTOR
	Q4	2SB709	TRANSISTOR
	Q5	DTC144EK	TRANSISTOR
	Q6	2SD601	TRANSISTOR
	Q7	2SD601	TRANSISTOR
	Q9	DTA144EK	TRANSISTOR
	Q10	DTC144EK	TRANSISTOR
	Q11	2SB709	TRANSISTOR
	Q12	2SB709	TRANSISTOR
	Q13	DTC144EK	TRANSISTOR
	Q14	DTA144EK	TRANSISTOR
	Q15	DTA144EK	TRANSISTOR
	Q16	DTA144EK	TRANSISTOR
	Q17	DTC144EK	TRANSISTOR
	Q18	DTC144EK	TRANSISTOR
	D1	DAN202K	DIODE ARRAY
	D3	DAN202K	DIODE ARRAY
	D4	DAN202K	DIODE ARRAY
	D8	DAN202K	DIODE ARRAY
	D10	DAN202K	DIODE ARRAY
	D11	DAN202K	DIODE ARRAY
	D12	DAN202K	DIODE ARRAY
	D15	DAN202K	DIODE ARRAY
	D16	DAN202K	DIODE ARRAY
	D17	DAN202K	DIODE ARRAY
	D18	DAN202K	DIODE ARRAY
	DA1	IMN10	DIODE
	DA2	DAP202K	DIODE
	R1	QRSA08J-100YN	RESISTOR
	R2	QRSA08J-104YN	RESISTOR
	R3	QRSA08J-102YN	RESISTOR
	R4	QRSA08J-103YN	RESISTOR
	R5	QRSA08J-103YN	RESISTOR
	R6	QRV187F-3322	CMF RESISTOR
	R7	QRSA08J-103YN	RESISTOR
	R8	QRSA08J-103YN	RESISTOR
	R9	QRSA08J-823YN	RESISTOR

6.2.33 BR-S611E COLOUR FRAME SERVO BOARD ASSY <36>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20248A	CF SERVO BOARD AY
	IC1	BA401	IC
	IC2	TC4015BP	IC
	IC3	TC4013BP	IC
	IC4	BU4538B	IC
	IC5	TC4017BP	IC
	IC6	TC4015BP	IC
	IC7	TC74HC4040AP	IC
	IC8	TC4040BP	IC
	IC9	TC4001BP	IC
	IC10	BU4584B	IC
	IC11	TC4071BP	IC
	IC12	TC74HC04AP	IC
	Q2	DTA144EF	TRANSISTOR
	Q4	DTA144EF	TRANSISTOR
	Q5	DTC144EF	TRANSISTOR
	Q6	DTC144EF	TRANSISTOR
	Q7	2SD636Q	TRANSISTOR
	Q8	2SB641Q	TRANSISTOR
	Q9	DTC144EF	TRANSISTOR
	D2	1SS133	DIODE
	D4	1SS133	DIODE
	D6	1SS133	DIODE
	D7	1SS133	DIODE
	R1	QRD161J-224	RESISTOR
	R2	QRD161J-224	RESISTOR
	R3	QRD161J-222	RESISTOR
	R4	QRD161J-222	RESISTOR
	R5	QRD161J-102	RESISTOR
	R6	QRD161J-103	RESISTOR
	R7	QRD161J-103	RESISTOR
	R8	QRV187F-3322	CMF RESISTOR
	R9	QRD161J-103	RESISTOR
	R10	QRD161J-223	RESISTOR
	R11	QRD161J-222	RESISTOR
	R12	QRD161J-224	RESISTOR
	R13	QRD161J-224	RESISTOR
	R14	QRD161J-224	RESISTOR
	R15	QRD161J-224	RESISTOR
	R16	QRD161J-224	RESISTOR
	R17	QRD161J-222	RESISTOR
	R18	QRD161J-823	RESISTOR
	R19	QRD161J-105	RESISTOR
	R20	QRD161J-222	RESISTOR
	R21	QRD161J-222	RESISTOR
	R22	QRD161J-820	RESISTOR
	R23	QRD161J-472	RESISTOR
	R24	QRD161J-104	RESISTOR
	R25	QRD161J-153	RESISTOR
	R26	QRD161J-102	RESISTOR
	R27	QRD161J-474	RESISTOR
	R28	QRD161J-153	RESISTOR
	R29	QRD161J-681	RESISTOR
	R30	QRD161J-472	RESISTOR
	C1	QEN61EM-475	NP E CAPACITOR
	C2	QETC1CM-107	E CAPACITOR
	C3	QCF31HP-223	CAPACITOR
	C4	QETC1HM-105	E CAPACITOR
	C5	QFP42AF-102M	PP CAPACITOR
	C6	QCS31HJ-151	CAPACITOR
	C7	QFN31HJ-103	M CAPACITOR
	C8	QCF31HP-223	CAPACITOR
	C9	QETC1CM-107	E CAPACITOR
	C10	QETC1HM-105	E CAPACITOR
	C11	QCS31HJ-330	CAPACITOR
	C12	QCS31HJ-330	CAPACITOR
	C13	QCF31HP-223	CAPACITOR
	C14	QETC1CM-107	E CAPACITOR
	C15	QFN31HJ-103	M CAPACITOR
	C16	QCF31HP-223	CAPACITOR
	C17	QCF31HP-223	CAPACITOR
	C18	QCF31HP-223	CAPACITOR
	C19	QCF31HP-223	CAPACITOR
	C20	QCF31HP-223	CAPACITOR
	C21	QCF31HP-223	CAPACITOR
	C22	QCF31HP-223	CAPACITOR
	C23	QCF31HP-223	CAPACITOR
	C24	QCF31HP-223	CAPACITOR
	C25	QCF31HP-223	CAPACITOR
	C26	QCF31HP-223	CAPACITOR
	L1	PU48530-221K	COIL
	L2	PU48530-221K	COIL
	L3	PU48530-221K	COIL
⚠	CF1	PU55407	RESONATOR
	TP1	PU54983	TEST PIN, X6
	CN1	PGZ00421-64	MALE CONNECTOR

* 6.2.34 RF DELAY & C ENHANCER BOARD ASSY <37> *

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK20022A-02	RF DL & C ENHANCER B.ASSY
	IC1	AN607P	IC
	IC2	AN607P	IC
	IC3	TA7348P	IC
	IC4	HMC-229	IC
	IC5	7VT05	IC
	IC7	PB20225A	IC
	IC8	AN608P	IC
	IC9	7VT05	IC
	IC10	VC2501	IC
	IC11	TA7348P	IC
	IC12	VC2501	IC
	Q1	2SC2647C	TRANSISTOR
	Q2	2SC2647C	TRANSISTOR
	Q3	2SC2647C	TRANSISTOR
	Q4	2SC2647C	TRANSISTOR
	Q5	DTC144EF	TRANSISTOR
	Q6	2SC2647C	TRANSISTOR
	Q7	2SC2647C	TRANSISTOR
	Q8	2SB641Q	TRANSISTOR
	Q9	2SC2647C	TRANSISTOR
	Q10	2SB641Q	TRANSISTOR
	Q11	2SC2647C	TRANSISTOR
	Q12	2SC2647C	TRANSISTOR
	Q13	2SC2647C	TRANSISTOR
	Q14	2SB641Q	TRANSISTOR
	Q15	2SC2647C	TRANSISTOR
	Q16	2SC2647C	TRANSISTOR
	Q17	2SC2647C	TRANSISTOR
	Q18	2SC2647C	TRANSISTOR
	Q20	DTC144EF	TRANSISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q21	2SC2647C	TRANSISTOR
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	D3	1SS133	DIODE
	D4	1SS133	DIODE
	D5	1SS133	DIODE
	D6	1SS133	DIODE
	R1	QRD161J-103	RESISTOR
	R2	QRD161J-123	RESISTOR
	R3	QRD161J-222	RESISTOR
	R4	QRD161J-391	RESISTOR
	R5	QRD161J-560	RESISTOR
	R6	QVZ3513-331	V RESISTOR
	R7	QRD161J-101	RESISTOR
	R8	QRD161J-392	RESISTOR
	R9	QRD161J-101	RESISTOR
	R10	QRD161J-222	RESISTOR
	R11	QRD161J-103	RESISTOR
	R12	QRD161J-123	RESISTOR
	R13	QRD161J-222	RESISTOR
	R14	QRD161J-391	RESISTOR
	R15	QRD161J-560	RESISTOR
	R16	QVZ3513-331	V RESISTOR
	R17	QRD161J-101	RESISTOR
	R18	QRD161J-392	RESISTOR
	R19	QRD161J-101	RESISTOR
	R20	QRD161J-222	RESISTOR
	R21	QRD161J-223	RESISTOR
	R22	QRD161J-103	RESISTOR
	R23	QRD161J-181	RESISTOR
	R24	QRD161J-333	RESISTOR
	R25	QRD161J-123	RESISTOR
	R26	QRD161J-222	RESISTOR
	R27	QRD161J-181	RESISTOR
	R28	QRD161J-181	RESISTOR
	R29	QRD161J-821	RESISTOR
	R30	QRD161J-271	RESISTOR
	R31	QRD161J-122	RESISTOR
	R32	QRD161J-122	RESISTOR
	R33	QRD161J-750	RESISTOR
	R34	QRD161J-223	RESISTOR
	R36	QRD161J-223	RESISTOR
	R37	QRD161J-333	RESISTOR
	R38	QRD161J-222	RESISTOR
	R39	QRD161J-102	RESISTOR
	R40	QRD161J-102	RESISTOR
	R41	QRD161J-272	RESISTOR
	R42	QRD161J-102	RESISTOR
	R43	QRD161J-102	RESISTOR
	R44	QRD161J-272	RESISTOR
	R45	QRD161J-472	RESISTOR
	R46	QRD161J-222	RESISTOR
	R47	QRD161J-103	RESISTOR
	R48	QRD161J-103	RESISTOR
	R49	QRD161J-392	RESISTOR
	R50	QVZ3513-102	V RESISTOR
	R51	QRD161J-391	RESISTOR
	R52	QRD161J-152	RESISTOR
	R53	QVZ3513-331	V RESISTOR
	R54	QRD161J-103	RESISTOR
	R55	QRD161J-102	RESISTOR
	R56	QRD161J-750	RESISTOR
	R60	QRD161J-473	RESISTOR
	R61	QRD161J-183	RESISTOR
	R62	QRD161J-222	RESISTOR
	R63	QRD161J-471	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R64	QRD161J-391	RESISTOR
	R65	QVZ3513-331	V RESISTOR
	R66	QRD161J-391	RESISTOR
	R67	QVZ3513-331	V RESISTOR
	R68	QRD161J-391	RESISTOR
	R69	QVZ3513-331	V RESISTOR
	R70	QRD161J-222	RESISTOR
	R71	QRD161J-183	RESISTOR
	R72	QRD161J-473	RESISTOR
	R73	QRD161J-223	RESISTOR
	R74	QRD161J-153	RESISTOR
	R75	QRD161J-272	RESISTOR
	R76	QRD161J-561	RESISTOR
	R77	QRD161J-473	RESISTOR
	R78	QRD161J-153	RESISTOR
	R79	QRD161J-102	RESISTOR
	R80	QRD161J-102	RESISTOR
	R81	QVZ3513-102	V RESISTOR
	R82	QRD161J-222	RESISTOR
	R83	QRD161J-102	RESISTOR
	R84	QRD161J-101	RESISTOR
	R85	QRD161J-392	RESISTOR
	R86	QRD161J-103	RESISTOR
	R87	QRD161J-102	RESISTOR
	R88	QRD161J-750	RESISTOR
	R89	QRD161J-750	RESISTOR
	R91	QVZ3513-222	V RESISTOR
	R92	QRD161J-102	RESISTOR
	R93	QRD161J-102	RESISTOR
	R94	QRD161J-473	RESISTOR
	R95	QRD161J-183	RESISTOR
	R96	QRD161J-222	RESISTOR
	R101	QRD161J-223	RESISTOR
	R102	QRD161J-181	RESISTOR
	R103	QRD161J-103	RESISTOR
	R104	QRD161J-272	RESISTOR
	R105	QRD161J-121	RESISTOR
	R107	QRD161J-223	RESISTOR
	R108	QRD161J-333	RESISTOR
	R109	QRD161J-681	RESISTOR
	R110	QRD161J-750	RESISTOR
	R111	QRD161J-122	RESISTOR
	R112	QRD161J-331	RESISTOR
	C1	QFN31HK-103	M CAPACITOR
	C2	QFN31HK-103	M CAPACITOR
	C3	QFN31HK-103	M CAPACITOR
	C4	QCF31HP-223	CAPACITOR
	C5	QER61CM-476	E CAPACITOR
	C6	QFN31HK-103	M CAPACITOR
	C7	QFN31HK-103	M CAPACITOR
	C8	QFN31HK-103	M CAPACITOR
	C9	QCF31HP-223	CAPACITOR
	C10	QER61CM-476	E CAPACITOR
	C11	QER41CM-107	E CAPACITOR
	C12	QCF31HP-223	CAPACITOR
	C13	QFN31HK-103	M CAPACITOR
	C14	QFN31HK-103	M CAPACITOR
	C15	QFN31HK-103	M CAPACITOR
	C16	QFN31HK-103	M CAPACITOR
	C17	QFN31HK-103	M CAPACITOR
	C18	QFN31HK-103	M CAPACITOR
	C19	QCF31HP-223	CAPACITOR
	C20	QER61CM-476	E CAPACITOR
	C21	QER41AM-107	E CAPACITOR
	C22	QER61CM-476	E CAPACITOR
	C23	QER61CM-476	E CAPACITOR

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C24	QER61CM-476	E CAPACITOR
	C25	QCS31HJ-680	CAPACITOR
	C27	QCF31HP-223	CAPACITOR
	C28	QETA1CM-477	E CAPACITOR
	C29	QER61CM-476	E CAPACITOR
	C30	QCF31HP-223	CAPACITOR
	C31	QER41CM-107	E CAPACITOR
	C32	QER41CM-107	E CAPACITOR
	C33	PU54990-3	E CAPACITOR
	C34	PU54990-3	E CAPACITOR
	C38	QER61CM-476	E CAPACITOR
	C39	QCF31HP-223	CAPACITOR
	C40	QFN31HK-223	M CAPACITOR
	C41	QER61CM-476	E CAPACITOR
	C42	QCF31HP-223	CAPACITOR
	C44	QFN31HK-223	M CAPACITOR
	C45	QER61CM-476	E CAPACITOR
	C46	QCS11HJ-750	CAPACITOR
	C47	QCS31HJ-391	CAPACITOR
	C48	QCS31HJ-681	CAPACITOR
	C49	QCF31HP-223	CAPACITOR
	C50	QER61CM-476	E CAPACITOR
	C51	QER41AM-107	E CAPACITOR
	C53	QER41AM-107	E CAPACITOR
	C54	QER41AM-107	E CAPACITOR
	C55	QER41CM-107	E CAPACITOR
	C56	QCF31HP-223	CAPACITOR
	C57	QER61CM-476	E CAPACITOR
	C58	QCS31HJ-9R0	CAPACITOR
	C59	PU54990-3	E CAPACITOR
	C60	PU54990-3	E CAPACITOR
	C61	QER41CM-107	E CAPACITOR
	C62	QER41CM-107	E CAPACITOR
	C63	QCF31HP-223	CAPACITOR
	C64	QFN31HK-223	M CAPACITOR
	C65	QFN31HK-223	M CAPACITOR
	C66	QFN31HK-223	M CAPACITOR
	C67	QFN31HK-223	M CAPACITOR
	C68	QER61CM-476	E CAPACITOR
	C69	QCF31HP-223	CAPACITOR
	C72	QFN31HK-223	M CAPACITOR
	C73	QFN31HK-223	M CAPACITOR
	C74	QER61CM-476	E CAPACITOR
	C75	QCF31HP-223	CAPACITOR
	C76	QFN31HK-223	M CAPACITOR
	C77	QER41CM-106	E CAPACITOR
	C78	QER61CM-476	E CAPACITOR
	C79	QCF31HP-223	CAPACITOR
	C80	QER61CM-476	E CAPACITOR
	C81	QCF31HP-223	CAPACITOR
	C82	QCF31HP-223	CAPACITOR
	C83	QFN31HK-223	M CAPACITOR
	C84	QFN31HK-223	M CAPACITOR
	C85	QETA1CM-227	E CAPACITOR
	C86	QCS31HJ-5R0	CAPACITOR
	C87	QER41AM-336	E CAPACITOR
	L1	PU48530-4R7J	COIL
	L2	PU48530-4R7J	COIL
	L3	PU48530-221J	COIL
	L4	PU48530-100J	COIL
	L5	PU48530-100J	COIL
	L6	PU48530-221J	COIL
	L7	PU48530-221J	COIL
	L8	PU48530-221J	COIL
	L9	PU48530-221J	COIL
	L10	PU48530-221J	COIL
	L11	PU48530-221J	COIL
	L12	PU48530-820J	COIL
	L13	PU48530-181J	COIL
	L14	PU48530-221J	COIL
	L15	PU48530-221J	COIL
	L16	PU48530-221J	COIL
	L17	PU48530-221J	COIL
	L18	PU48530-221J	COIL
	L19	PU48530-221J	COIL
	L20	PGZ01197	COIL
	L21	PU48530-120J	COIL
	EQ1	PGZ01196	EQUALIZER
	EQ2	PGZ01195	EQUALIZER
	EQ3	PGZ01195	EQUALIZER
	DL1	PGZ00975	DELAY LINE
	DL2	PGZ00975-02	DELAY LINE
	DL3	PGZ00826-004	DELAY LINE
	DL4	PGZ00826-003	DELAY LINE
	DL6	PGZ00826-003	DELAY LINE
	DL7	PGZ00826-003	DELAY LINE
	SW3	PU54440	SWITCH
⚠	K1	PGZ00354	FERRITE BEADS
	SLD1	PRS30022A	SHIELD CASE ASSY
	TP1	PU54983	TEST PIN
	CN1	PGZ00421-64	MALE CONNECTOR

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6.2.35 PICK OUT DETECTOR BOARD <38>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWB	PGE40012	BOARD
	PHS1	PU50576	PHOTO INTERRPTER

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6.2.36 CONNECTOR BOARD ASSEMBLY <39>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE10081A-01	CONNECTED BOARD ASSY
	R1	NRS016J-151NR	RESISTOR
	R2	QVZ3513-682	V RESISTOR
	R3	QVZ3513-682	V RESISTOR
	R4	NRS016J-151NR	RESISTOR
	R5	NRS016J-151NR	RESISTOR
	CN1	PGZ00806-05	SMT HOUSING
	CN2	PGZ00806-04	SMT HOUSING
	CN3	PGZ00806-04	SMT HOUSING
	CN4	PGZ00806-04	SMT HOUSING
	CN5	PGZ00806-04	SMT HOUSING

6.2.37 POWER TRANSISTOR BOARD ASSEMBLY <41>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
⚠	PWBA	PGE30148-01-04	POWER TRANSISTOR BOARD
⚠	C1	QETA1CM-337	E CAPACITOR

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6.2.38 HEADPHONE VR BOARD ASSEMBLY <51>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20153A1	HEADPHONE VR BOARD ASSY
	R1	QRSA08J-332YN	RESISTOR
	R2	QRSA08J-332YN	RESISTOR
	R3	PGZ01027	V RESISTOR, X2
	C1	QEK41EM-475	E CAPACITOR
	C2	QEK41EM-475	E CAPACITOR
	CN1	PU58654-3	CONNECTOR

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6.2.39 HEADPHONE JACK BOARD ASSEMBLY <52>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20153A2-01	HEADPHONE BOARD ASSY
	MH1	PGZ01081-05	MICRO HEADER
	Q1	DTC323TK	TRANSISTOR
	Q2	DTC323TK	TRANSISTOR
	R9	QRSA08J-103YN	RESISTOR
	R10	QRSA08J-103YN	RESISTOR
	R11	QRSA08J-100YN	RESISTOR
	R12	QRSA08J-100YN	RESISTOR
	R31	QRSA08J-330YN	RESISTOR
	R32	QRSA08J-330YN	RESISTOR
	R54	QRSA08J-0R0Y	RESISTOR
	R56	QRSA08J-0R0Y	RESISTOR
	C5	QETA1AM-477	E CAPACITOR
	C6	QETA1AM-477	E CAPACITOR
	C19	QCFA1EZ-104	CAPACITOR
	C20	QCFA1EZ-104	CAPACITOR
	J1	PGZ00725	JACK

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6.2.40 L CHANNEL MIC JACK BOARD ASSEMBLY <53>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20153A3	LCH MIC BOARD ASSY
	MH2	PGZ01081-05	MICRO HEADER
	R14	QRSA08J-123YN	RESISTOR
	R15	QRSA08J-124YN	RESISTER
	R51	QRSA08J-0R0Y	RESISTOR
	C3	QEF81CM-475	TANTAL CAPACITOR
	J1	PGZ00595-02	MIC JACK

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6.2.41 R CHANNEL MIC JACK BOARD ASSEMBLY <54>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20153A4	RCH MIC BOARD ASSY
	MH3	PGZ01081-05	MICRO HEADER
	R16	QRSA08J-123YN	RESISTOR
	R17	QRSA08J-124YN	RESISTER
	R52	QRSA08J-0R0Y	RESISTOR
	C4	QEF81CM-475	TANTAL CAPACITOR
	J1	PGZ00595-02	MIC JACK

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6.2.42 JACK BOARD ASSEMBLY <55>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE20153A5	JACK BOARD ASSY
	IC1	M5216FP	IC
	IC2	NJM2068MD	IC
	R5	QRSA08J-104YN	RESISTOR
	R6	QRSA08J-104YN	RESISTOR
	R7	QRSA08J-104YN	RESISTOR
	R8	QRSA08J-104YN	RESISTOR
	R13	NRS016J-151NZR	RESISTOR
	R18	QRSA08J-124YN	RESISTER
	R19	QRSA08J-563YN	RESISTOR
	R20	QRSA08J-270YN	RESISTOR
	R21	QRSA08J-221YN	RESISTOR
	R22	QRSA08J-102YN	RESISTOR
	R23	QRSA08J-102YN	RESISTOR
	R24	QRSA08J-124YN	RESISTER
	R25	QRSA08J-563YN	RESISTOR
	R26	QRSA08J-270YN	RESISTOR
	R27	QRSA08J-221YN	RESISTOR
	R28	QRSA08J-101YN	RESISTOR
	R29	QRSA08J-101YN	RESISTOR
	R30	NRS016J-151NZR	RESISTOR
	R53	QRSA08J-0R0Y	RESISTOR
	R55	QRSA08J-0R0Y	RESISTOR
	C7	QEK41CM-107	E CAPACITOR
	C8	QCTA1CH-680	CAPACITOR
	C9	QEK41CM-107	E CAPACITOR
	C10	QEK41CM-107	E CAPACITOR

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*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C11	QCTA1CH-680	CAPACITOR
	C12	QEK41CM-107	E CAPACITOR
	C13	QEK41CM-107	E CAPACITOR
	C14	QER41CM-106	E CAPACITOR
	C15	QER41CM-106	E CAPACITOR
	C16	QEK41CM-107	E CAPACITOR
	CN2	PU58655-4	CAP HOUSING
	CN3	PU58655-5	CAP HOUSING

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6.2.43 CROSSTALK CANCEL BOARD ASSEMBLY <63>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK20020A-01	CROSSTALK CANCEL BOARD ASSY
	IC1	AN607P	IC
	IC2	AN607P	IC
	IC3	AN607P	IC
	IC4	VC2061	IC
⚠	IC5	CXL5003P	IC
⚠	IC6	CXL5003P	IC
	IC7	AN608P	IC
	IC8	BA401	IC
	IC9	AN614	IC
⚠	IC10	CXL5003P	IC
⚠	IC11	CXL5003P	IC
	IC12	AN607P	IC
	IC13	AN607P	IC
	IC14	TA7348P	IC
	IC15	AN608P	IC
	IC16	VC2096	IC
	IC17	VC2096	IC
	Q1	2SC2647C	TRANSISTOR
	Q2	2SC2647C	TRANSISTOR
	Q3	2SC2647C	TRANSISTOR
	Q4	2SC2647C	TRANSISTOR
	Q5	2SC2647C	TRANSISTOR
	Q6	2SC2647C	TRANSISTOR
	Q7	2SC2647C	TRANSISTOR
	Q8	2SC2647C	TRANSISTOR
	Q9	2SC2647C	TRANSISTOR
	Q10	2SC2647C	TRANSISTOR
	Q11	2SC2647C	TRANSISTOR
	Q12	2SC2647C	TRANSISTOR
	Q13	2SC2647C	TRANSISTOR
	Q14	2SC2647C	TRANSISTOR
	Q15	2SC2647C	TRANSISTOR
	Q17	2SC2647C	TRANSISTOR
	Q20	2SC2647C	TRANSISTOR
	Q21	2SC2647C	TRANSISTOR
	Q22	2SC2647C	TRANSISTOR
	Q23	2SB641Q	TRANSISTOR
	Q24	2SC2647C	TRANSISTOR
	Q27	2SC2647C	TRANSISTOR
	Q28	2SC2647C	TRANSISTOR
	Q29	DTC144EF	TRANSISTOR
	Q30	DTC144EF	TRANSISTOR
	Q31	2SC2647C	TRANSISTOR
	Q32	2SC2647C	TRANSISTOR
	Q33	DTC144EF	TRANSISTOR
	D1	1SS135	DIODE
	D2	1SS135	DIODE
	D3	1SS133	DIODE
	R1	QRD161J-102	RESISTOR
	R2	QVZ3513-102	V RESISTOR
	R3	QRD161J-561	RESISTOR
	R4	QRD161J-222	RESISTOR
	R5	QRD161J-152	RESISTOR
	R6	QRD161J-182	RESISTOR
	R7	QRD161J-391	RESISTOR
	R8	QVZ3513-221	V RESISTOR
	R9	QRD163J-181	RESISTOR
	R10	QRD163J-561	RESISTOR
	R11	QRD163J-152	RESISTOR
	R12	QRD163J-222	RESISTOR
	R13	QRD163J-152	RESISTOR
	R14	QRD163J-182	RESISTOR
	R15	QRD163J-391	RESISTOR
	R16	QVZ3513-221	V RESISTOR
	R17	QRD161J-181	RESISTOR
	R18	QRD163J-392	RESISTOR
	R19	QRD163J-182	RESISTOR
	R20	QRD161J-223	RESISTOR
	R21	QRD161J-103	RESISTOR
	R22	QRD161J-102	RESISTOR
	R23	QVZ3513-102	V RESISTOR
	R24	QRD161J-102	RESISTOR
	R25	QRD161J-682	RESISTOR
	R26	QRD161J-222	RESISTOR
	R27	QRD161J-102	RESISTOR
	R28	QRD161J-102	RESISTOR
	R30	QRD161J-102	RESISTOR
	R31	QRD161J-101	RESISTOR
	R32	QRD161J-151	RESISTOR
	R33	QVZ3513-471	V RESISTOR
	R34	QRD161J-151	RESISTOR
	R35	QVZ3513-681	V RESISTOR
	R36	QRD161J-223	RESISTOR
	R37	QRD161J-223	RESISTOR
	R38	QRD161J-332	RESISTOR
	R39	QRD161J-104	RESISTOR
	R40	QVZ3513-103	V RESISTOR
	R41	QRD161J-223	RESISTOR
	R42	QRD161J-822	RESISTOR
	R43	QRD161J-561	RESISTOR
	R44	QRD161J-102	RESISTOR
	R46	QRD161J-392	RESISTOR
	R47	QVZ3513-103	V RESISTOR
	R48	QRD161J-223	RESISTOR
	R49	QRD161J-472	RESISTOR
	R50	QRD161J-102	RESISTOR
	R51	QRD161J-471	RESISTOR
	R52	QRD161J-102	RESISTOR
	R53	QRD161J-223	RESISTOR
	R54	QRD161J-223	RESISTOR
	R55	QRD161J-392	RESISTOR
	R56	QRD161J-391	RESISTOR
	R57	QRD161J-0R0	RESISTOR
	R58	QRD161J-391	RESISTOR
	R59	QRD161J-223	RESISTOR
	R60	QRD161J-103	RESISTOR
	R61	QRD161J-102	RESISTOR
	R62	QVZ3513-102	V RESISTOR
	R63	QRD161J-102	RESISTOR
	R64	QRD161J-392	RESISTOR
	R65	QRD161J-222	RESISTOR
	R66	QVZ3513-102	V RESISTOR
	R67	QRD163J-102	RESISTOR
	R68	QRD161J-472	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R69	QRD161J-103	RESISTOR
	R70	QRD161J-472	RESISTOR
	R71	QRD161J-103	RESISTOR
	R72	QRD161J-472	RESISTOR
	R73	QRD161J-102	RESISTOR
	R74	QRD161J-102	RESISTOR
	R79	QVZ3513-222	V RESISTOR
	R81	QRD161J-223	RESISTOR
	R82	QRD161J-223	RESISTOR
	R83	QRD161J-332	RESISTOR
	R84	QRD161J-104	RESISTOR
	R85	QVZ3513-103	V RESISTOR
	R86	QRD161J-223	RESISTOR
	R87	QRD161J-682	RESISTOR
	R88	QRD161J-102	RESISTOR
	R89	QRD161J-331	RESISTOR
	R91	QRD161J-562	RESISTOR
	R92	QVZ3513-103	V RESISTOR
	R93	QRD163J-472	RESISTOR
	R94	QRD161J-102	RESISTOR
	R95	QRD161J-681	RESISTOR
	R96	QRD161J-331	RESISTOR
	R97	QRD161J-101	RESISTOR
	R98	QRD161J-332	RESISTOR
	R99	QRD161J-392	RESISTOR
	R100	QRD161J-102	RESISTOR
	R101	QRD161J-0R0	RESISTOR
	R102	QRD161J-122	RESISTOR
	R107	QVZ3513-222	V RESISTOR
	R109	QRD161J-101	RESISTOR
	R110	QRD161J-561	RESISTOR
	R111	QRD161J-103	RESISTOR
	R112	QRD161J-332	RESISTOR
	R113	QVZ3513-332	V RESISTOR
	R114	QRD161J-0R0	RESISTOR
	R115	QVZ3513-332	V RESISTOR
	R116	QRD161J-272	RESISTOR
	R117	QVZ3513-102	V RESISTOR
	R118	QRD161J-682	RESISTOR
	R119	QRD161J-181	RESISTOR
	R120	QRD161J-333	RESISTOR
	R121	QRD161J-223	RESISTOR
	R123	QRD161J-562	RESISTOR
	R124	QRD161J-472	RESISTOR
	R125	QRD161J-103	RESISTOR
	R126	QRD161J-750	RESISTOR
	R127	QRD161J-472	RESISTOR
	R128	QRD161J-223	RESISTOR
	R130	QRD161J-822	RESISTOR
	R131	QRD161J-393	RESISTOR
	R132	QRD163J-822	RESISTOR
	R133	QRD163J-393	RESISTOR
	R134	QRD161J-103	RESISTOR
	R135	QRD163J-104	RESISTOR
	R136	QRD163J-104	RESISTOR
	R137	QRD161J-223	RESISTOR
	R138	QRD161J-222	RESISTOR
	R139	QRD161J-561	RESISTOR
	R140	QRD163J-333	RESISTOR
	R141	QRD163J-562	RESISTOR
	R142	QRD163J-182	RESISTOR
	R143	QRD163J-221	RESISTOR
	R144	QRD163J-333	RESISTOR
	R145	QRD163J-562	RESISTOR
	R146	QRD163J-182	RESISTOR
	R147	QRD163J-221	RESISTOR
	R148	QRD161J-331	RESISTOR
	R149	QRD161J-101	RESISTOR
	R150	QRD161J-101	RESISTOR
	R151	QRD161J-473	RESISTOR
	R152	QRD161J-102	RESISTOR
	R153	QRD161J-102	RESISTOR
	C1	QFN31HK-103	M CAPACITOR
	C2	QFN31HK-103	M CAPACITOR
	C3	QCF31HP-223	CAPACITOR
	C4	QER61CM-476	E CAPACITOR
	C5	QFN31HK-103	M CAPACITOR
	C6	QFN31HK-223	M CAPACITOR
	C7	QCF31HP-223	CAPACITOR
	C8	QER61CM-476	E CAPACITOR
	C9	QFN31HK-103	M CAPACITOR
	C10	QFN31HK-223	M CAPACITOR
	C11	QCF31HP-223	CAPACITOR
	C12	QER61CM-476	E CAPACITOR
	C13	QFN31HK-103	M CAPACITOR
	C14	QCT25CH-270	CAPACITOR
	C15	QCF31HP-223	CAPACITOR
	C17	QER61CM-476	E CAPACITOR
	C18	QCF31HP-223	CAPACITOR
	C19	QEK41CM-107	E CAPACITOR
	C20	QFN31HK-103	M CAPACITOR
	C21	QER61CM-476	E CAPACITOR
	C22	QER61CM-476	E CAPACITOR
	C23	QFN31HK-103	M CAPACITOR
	C24	QFN31HK-103	M CAPACITOR
	C25	QER60JM-476	E CAPACITOR
	C26	QCF31HP-223	CAPACITOR
	C27	QER61HM-104GZ	E CAPACITOR
	C28	QFN31HK-103	M CAPACITOR
	C29	QER61AM-476	E CAPACITOR
	C30	QCF31HP-223	CAPACITOR
	C31	QFN31HK-103	M CAPACITOR
	C32	QCS31HJ-150	CAPACITOR
	C34	QFN31HK-103	M CAPACITOR
	C35	QER60JM-476	E CAPACITOR
	C36	QCF31HP-223	CAPACITOR
	C37	QER61HM-104GZ	E CAPACITOR
	C38	QFN31HK-103	M CAPACITOR
	C39	QER61AM-476	E CAPACITOR
	C40	QCF31HP-223	CAPACITOR
	C41	QCF31HP-223	CAPACITOR
	C42	QER60JM-476	E CAPACITOR
	C43	QFN31HK-103	M CAPACITOR
	C44	QFN31HK-103	M CAPACITOR
	C45	QER61CM-476	E CAPACITOR
	C46	QCF31HP-223	CAPACITOR
	C47	QFN31HK-103	M CAPACITOR
	C48	QCF31HP-223	CAPACITOR
	C49	QFN31HK-103	M CAPACITOR
	C50	QFN31HK-103	M CAPACITOR
	C51	QCT25CH-101	CAPACITOR
	C52	QCF31HP-223	CAPACITOR
	C53	QFN31HK-103	M CAPACITOR
	C54	QFN31HK-223	M CAPACITOR
	C55	QCF31HP-223	CAPACITOR
	C56	QER61CM-476	E CAPACITOR
	C57	QFN31HK-223	M CAPACITOR
	C58	QFN31HK-333	M CAPACITOR
	C59	QER61CM-106GZ	E CAPACITOR
	C60	QCS31HJ-390	CAPACITOR
	C61	QCF31HP-223	CAPACITOR
	C62	QFN31HK-223	M CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C63	QER61HM-335GZ	E CAPACITOR
	C64	QER61CM-476	E CAPACITOR
	C65	QCF31HP-223	CAPACITOR
	C66	QER61CM-476	E CAPACITOR
	C67	QFN31HK-223	M CAPACITOR
	C69	QFN31HK-223	M CAPACITOR
	C70	QCT25CH-101	CAPACITOR
	C71	QER61CM-476	E CAPACITOR
	C72	QFN31HK-223	M CAPACITOR
	C73	QFN31HK-223	M CAPACITOR
	C74	QER60JM-476	E CAPACITOR
	C75	QCF31HP-223	CAPACITOR
	C76	QFN31HK-103	M CAPACITOR
	C77	QER61HM-104GZ	E CAPACITOR
	C78	QER61AM-476	E CAPACITOR
	C79	QCF31HP-223	CAPACITOR
	C80	QFN31HK-223	M CAPACITOR
	C81	QCS31HJ-150	CAPACITOR
	C83	QFN31HK-223	M CAPACITOR
	C84	QER60JM-476	E CAPACITOR
	C85	QCF31HP-223	CAPACITOR
	C86	QFN31HK-103	M CAPACITOR
	C87	QER61HM-104GZ	E CAPACITOR
	C88	QER61AM-476	E CAPACITOR
	C89	QCF31HP-223	CAPACITOR
	C90	QER61CM-476	E CAPACITOR
	C91	QCF31HP-223	CAPACITOR
	C92	QFN31HK-223	M CAPACITOR
	C93	QFN31HK-223	M CAPACITOR
	C94	QCF31HP-223	CAPACITOR
	C95	QER61CM-476	E CAPACITOR
	C96	QFN31HK-223	M CAPACITOR
	C97	QFN31HK-223	M CAPACITOR
	C98	QCT25CH-101	CAPACITOR
	C99	QER61CM-476	E CAPACITOR
	C100	QFN31HK-223	M CAPACITOR
	C101	QFN31HK-223	M CAPACITOR
	C102	QFN31HK-223	M CAPACITOR
	C103	QCF31HP-223	CAPACITOR
	C104	QER61CM-476	E CAPACITOR
	C106	QFN31HK-223	M CAPACITOR
	C107	QFN31HK-223	M CAPACITOR
	C108	QCF31HP-223	CAPACITOR
	C109	QCF31HP-223	CAPACITOR
	C110	QER61CM-476	E CAPACITOR
	C111	QFN31HK-103	M CAPACITOR
	C112	QFN31HK-103	M CAPACITOR
	C113	QER61CM-476	E CAPACITOR
	C114	QFN31HK-223	M CAPACITOR
	C115	QFN31HK-223	M CAPACITOR
	C116	QFN31HK-223	M CAPACITOR
	C117	QFN31HK-223	M CAPACITOR
	C118	QCT25CH-270	CAPACITOR
	C119	QER61CM-476	E CAPACITOR
	C120	QCF31HP-223	CAPACITOR
	C121	QCFB1EZ-223	CAPACITOR
	C122	QCFB1EZ-223	CAPACITOR
	C123	QCFB1EZ-223	CAPACITOR
	L1	PU48530-221J	COIL
	L2	PU48530-8R2J	COIL
	L3	PGZ00973	COIL
	L4	PU48530-221J	COIL
	L5	PU48530-8R2J	COIL
	L6	PGZ00973	COIL
	L7	PU48530-221J	COIL
	L8	PU48530-221J	COIL
	L9	PU48530-221J	COIL
	L10	PU48530-221J	COIL
	L11	PU48530-100J	COIL
	L12	PU48530-221J	COIL
	L13	PU48530-221J	COIL
	L14	PU48530-221J	COIL
	L15	PU48530-221J	COIL
	L16	PU48530-221J	COIL
	L17	PU48530-221J	COIL
	L18	PU48530-221J	COIL
	L19	PU48530-100J	COIL
	L20	PU48530-221J	COIL
	L21	PU48530-221J	COIL
	L22	PU48530-221J	COIL
	L23	PU48530-221J	COIL
	L24	PU48530-221J	COIL
	LPF1	PGZ00181	LOW PASS FILTER
	LPF2	PGZ00325	LOW PASS FILTER
	BPF1	PU54410-2	BAND PASS FILTER
	DL1	PGZ00974	DELAY LINE
	DL2	PGZ00974	DELAY LINE
	DL3	PGZ00131-001	DELAY LINE
	DL4	PGZ00179-080	DELAY LINE
⚠	X1	PU59642	CRYSTAL RESONATOR
⚠	K1	PGZ00354	FERRITE BEADS, X6
⚠	TH1	ERT-D2FHL333S	THERMISTOR
⚠	TH2	ERT-D2FGL101S	THERMISTOR
⚠	TH3	ERT-D2FGL101S	THERMISTOR
	SLD1	PRD30254	SHIELD CASE
	SLD2	PRD30255	SHIELD CAP
	SLD3	PRS30012B	SHIELD ASSY
	TP1	PU54983	TEST PIN, X19
	CN1	PU58844-104	CAP HOUSING
	CN2	PU58844-108	CAP HOUSING
	CN3	PU58844-109	CAP HOUSING

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6.2.44 Y 2H DELAY BOARD ASSEMBLY <65>

	PWBA	PRK20019A-02	Y 2H DELAY BOARD ASSY
	IC1	TA7347P	IC
	IC2	HMC-229	IC
	IC3	VC2031DP	IC
	IC4	AN608P	IC
	IC5	AN608P	IC
	IC6	AN608P	IC
	IC7	BA7021	IC
⚠	IC8	CXL1004P	IC
⚠	IC9	CXL1004P	IC
	IC10	HMC-229	IC
	IC11	BA401	IC
	IC12	HMC-229	IC
	IC13	VC2501	IC
	Q1	2SC2647C	TRANSISTOR
	Q2	2SC2647C	TRANSISTOR
	Q3	2SC2647C	TRANSISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q4	2SB641Q	TRANSISTOR
	Q5	2SC2647C	TRANSISTOR
	Q6	2SC2647C	TRANSISTOR
	Q7	2SB641Q	TRANSISTOR
	Q8	2SC2647C	TRANSISTOR
	Q9	2SC2647C	TRANSISTOR
	Q10	2SC2647C	TRANSISTOR
	Q11	2SC2647C	TRANSISTOR
	Q12	2SB641Q	TRANSISTOR
	Q13	2SC2647C	TRANSISTOR
	Q14	2SC2647C	TRANSISTOR
	Q15	2SC2647C	TRANSISTOR
	Q16	2SB641Q	TRANSISTOR
	Q17	2SC2647C	TRANSISTOR
	Q18	2SC2647C	TRANSISTOR
	Q19	2SC2647C	TRANSISTOR
	Q20	2SB641Q	TRANSISTOR
	Q21	2SC2647C	TRANSISTOR
	Q22	2SC2647C	TRANSISTOR
	Q23	2SC2647C	TRANSISTOR
	Q24	2SC2647C	TRANSISTOR
	Q25	2SC2647C	TRANSISTOR
	Q26	2SC2647C	TRANSISTOR
	Q27	2SC2647C	TRANSISTOR
	Q28	2SC2647C	TRANSISTOR
	Q29	2SC2647C	TRANSISTOR
	Q30	2SC2647C	TRANSISTOR
	Q31	2SC2647C	TRANSISTOR
	Q32	2SC2647C	TRANSISTOR
	Q33	2SC2647C	TRANSISTOR
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	D3	1SS133	DIODE
	D4	1SS99	DIODE
	D5	1SS99	DIODE
	R1	QRD161J-152	RESISTOR
	R2	QRD161J-102	RESISTOR
	R3	QRD161J-102	RESISTOR
	R4	QRD161J-221	RESISTOR
	R5	QRD161J-333	RESISTOR
	R6	QRD161J-561	RESISTOR
	R7	QRD161J-152	RESISTOR
	R8	QRD161J-101	RESISTOR
	R9	QRD161J-102	RESISTOR
	R10	QRD161J-222	RESISTOR
	R11	QRD161J-333	RESISTOR
	R12	QRD161J-821	RESISTOR
	R13	QRD161J-393	RESISTOR
	R14	QRD161J-223	RESISTOR
	R15	QRD161J-102	RESISTOR
	R16	QRD161J-561	RESISTOR
	R17	QVZ3513-681	V RESISTOR
	R18	QRD161J-0R0	RESISTOR
	R19	QRD161J-331	RESISTOR
	R20	QRD161J-102	RESISTOR
	R21	QRD161J-102	RESISTOR
	R22	QRD161J-331	RESISTOR
	R23	QRD161J-332	RESISTOR
	R24	QRD161J-181	RESISTOR
	R25	QRD161J-222	RESISTOR
	R26	QVZ3513-102	V RESISTOR
	R27	QRD161J-221	RESISTOR
	R28	QRD161J-332	RESISTOR
	R29	QRD161J-391	RESISTOR
	R30	QRD161J-152	RESISTOR
	R31	QRD161J-223	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R32	QRD161J-103	RESISTOR
	R33	QRD161J-182	RESISTOR
	R34	QVZ3513-222	V RESISTOR
	R35	QRD161J-152	RESISTOR
	R36	QRD161J-682	RESISTOR
	R37	QVZ3513-103	V RESISTOR
	R38	QRD161J-561	RESISTOR
	R39	QRD161J-472	RESISTOR
	R40	QVZ3513-102	V RESISTOR
	R41	QRD161J-102	RESISTOR
	R42	QRV141F-1001AY	CMF RESISTOR
	R43	QRV141F-1501AY	CMF RESISTOR
	R44	QRV141F-4700AY	CMF RESISTOR
	R45	QRV141F-3301AY	CMF RESISTOR
	R46	QRV141F-1001AY	CMF RESISTOR
	R47	QRV141F-3001AY	CMF RESISTOR
	R48	QVZ3513-222	V RESISTOR
	R49	QRD161J-471	RESISTOR
	R50	QRD161J-561	RESISTOR
	R51	QRD161J-391	RESISTOR
	R52	QRD161J-102	RESISTOR
	R53	QRD161J-392	RESISTOR
	R54	QRD161J-101	RESISTOR
	R55	QRD161J-391	RESISTOR
	R56	QRV141F-2401AY	CMF RESISTOR
	R57	QRD161J-391	RESISTOR
	R58	QRD161J-102	RESISTOR
	R59	QRD161J-223	RESISTOR
	R60	QRD161J-223	RESISTOR
	R61	QRD161J-562	RESISTOR
	R62	QVZ3513-222	V RESISTOR
	R63	QRD161J-392	RESISTOR
	R64	QRD161J-561	RESISTOR
	R65	QRD161J-121	RESISTOR
	R66	QRD161J-102	RESISTOR
	R67	QRD161J-682	RESISTOR
	R68	QRD161J-103	RESISTOR
	R69	QRD161J-102	RESISTOR
	R70	QRD161J-392	RESISTOR
	R71	QRD161J-101	RESISTOR
	R72	QRD161J-222	RESISTOR
	R73	QRD163J-152	RESISTOR
	R74	QRD161J-101	RESISTOR
	R75	QRD161J-222	RESISTOR
	R76	QRD161J-152	RESISTOR
	R77	QRD161J-223	RESISTOR
	R78	QRD161J-103	RESISTOR
	R79	QRD161J-222	RESISTOR
	R80	QRD161J-102	RESISTOR
	R81	QRD161J-911	RESISTOR
	R82	QRD161J-393	RESISTOR
	R83	QRD161J-153	RESISTOR
	R84	QVZ3513-102	V RESISTOR
	R85	QRD161J-102	RESISTOR
	R86	QRD161J-102	RESISTOR
	R87	QRD161J-101	RESISTOR
	R88	QRD161J-392	RESISTOR
	R89	QRD161J-102	RESISTOR
	R90	QRD161J-102	RESISTOR
	R91	QRD161J-103	RESISTOR
	R92	QRD161J-102	RESISTOR
	R93	QRD161J-221	RESISTOR
	R94	QRD161J-104	RESISTOR
	R95	QVZ3513-103	V RESISTOR
	R96	QVZ3513-472	V RESISTOR
	R97	QRD161J-333	RESISTOR
	R98	QRD161J-223	RESISTOR
	R99	QRD161J-821	RESISTOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R100	QRD161J-222	RESISTOR
	R101	QRD161J-104	RESISTOR
	R102	QVZ3513-103	V RESISTOR
	R103	QVZ3513-472	V RESISTOR
	R104	QRD161J-333	RESISTOR
	R105	QRD161J-223	RESISTOR
	R106	QRD161J-103	RESISTOR
	R107	QRD161J-223	RESISTOR
	R108	QRD161J-101	RESISTOR
	R109	QRD161J-221	RESISTOR
	R110	QVZ3513-152	V RESISTOR
	R111	QRD161J-561	RESISTOR
	R112	QRD161J-102	RESISTOR
	R113	QRD161J-122	RESISTOR
	R114	QRD161J-223	RESISTOR
	R115	QRD161J-103	RESISTOR
	R116	QRD161J-102	RESISTOR
	R117	QVZ3513-102	V RESISTOR
	R118	QRD161J-561	RESISTOR
	R119	QRD161J-152	RESISTOR
	R120	QRD161J-223	RESISTOR
	R121	QRD161J-103	RESISTOR
	R122	QRD161J-102	RESISTOR
	R123	QRD161J-101	RESISTOR
	R124	QVZ3513-152	V RESISTOR
	R125	QRD161J-561	RESISTOR
	R126	QRD161J-102	RESISTOR
	R127	QRD161J-122	RESISTOR
	R128	QRD161J-223	RESISTOR
	R129	QRD161J-103	RESISTOR
	R130	QRD161J-102	RESISTOR
	R131	QVZ3513-102	V RESISTOR
	R132	QRD161J-561	RESISTOR
	R133	QRD161J-152	RESISTOR
	R134	QRD161J-393	RESISTOR
	R135	QRD161J-223	RESISTOR
	R136	QRD161J-393	RESISTOR
	R137	QRD161J-223	RESISTOR
	R138	QRD161J-562	RESISTOR
	R139	QRD161J-102	RESISTOR
	R140	QRD161J-152	RESISTOR
	R141	QRD161J-682	RESISTOR
	R142	QRD161J-152	RESISTOR
	R143	QRD161J-103	RESISTOR
	R144	QVZ3513-101	V RESISTOR
	R145	QRD161J-391	RESISTOR
	R146	QRD161J-103	RESISTOR
	R147	QRD161J-472	RESISTOR
	R148	QRD161J-393	RESISTOR
	R149	QRD161J-223	RESISTOR
	R150	QRD161J-393	RESISTOR
	R151	QRD161J-223	RESISTOR
	R152	QRD161J-562	RESISTOR
	R153	QRD161J-391	RESISTOR
	R154	QRD161J-102	RESISTOR
	R155	QRD161J-682	RESISTOR
	R156	QRD161J-682	RESISTOR
	R157	QRD161J-391	RESISTOR
	R158	QRD161J-391	RESISTOR
	R159	QRD161J-152	RESISTOR
	R160	QRD161J-152	RESISTOR
	R161	QRD161J-104	RESISTOR
	R162	QRD161J-181	RESISTOR
	R163	QRD161J-0R0	RESISTOR
	C1	QCF31HP-223	CAPACITOR
	C2	QETA1CM-227	E CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C3	QER61CM-476	E CAPACITOR
	C4	QER61CM-476	E CAPACITOR
	C5	QFN31HK-102	M CAPACITOR
	C6	QER60JM-227	E CAPACITOR
	C7	QCF31HP-223	CAPACITOR
	C8	QETA1CM-227	E CAPACITOR
	C9	QCS11HJ-221	CAPACITOR
	C10	QCF31HP-223	CAPACITOR
	C11	QETA1CM-227	E CAPACITOR
	C12	QER61AM-476	E CAPACITOR
	C13	QER60JM-227	E CAPACITOR
	C14	QETA1CM-227	E CAPACITOR
	C15	QEK40JM-227	E CAPACITOR
	C16	QCF31HP-223	CAPACITOR
	C17	QER61CM-106	E CAPACITOR
	C18	QER61CM-476	E CAPACITOR
	C19	QER61HM-475	E CAPACITOR
	C20	QER61HM-475	E CAPACITOR
	C21	QFP41HF-271	CAPACITOR
	C22	QFP41HF-271	CAPACITOR
	C23	QFP41HF-221	CAPACITOR
	C24	QFP41HF-271	CAPACITOR
	C25	QFP41HF-820	CAPACITOR
	C26	QEPA0JM-476	E CAPACITOR
	C27	QRD161J-0R0	RESISTOR
	C28	QCS31HJ-330	CAPACITOR
	C29	QCF31HP-223	CAPACITOR
	C30	QETA1CM-227	E CAPACITOR
	C31	QER61CM-476	E CAPACITOR
	C32	QER61CM-476	E CAPACITOR
	C33	QCF31HP-223	CAPACITOR
	C34	QETA1CM-227	E CAPACITOR
	C35	QER60JM-227	E CAPACITOR
	C36	QER61CM-476	E CAPACITOR
	C37	QER61CM-106	E CAPACITOR
	C38	QCF31HP-223	CAPACITOR
	C39	QCF31HP-223	CAPACITOR
	C40	QEK41CM-227	E CAPACITOR
	C41	QCF31HP-223	CAPACITOR
	C42	QER61CM-476	E CAPACITOR
	C43	QCF31HP-223	CAPACITOR
	C44	QER61CM-476	E CAPACITOR
	C45	QCF31HP-223	CAPACITOR
	C46	QCS31HJ-101	CAPACITOR
	C47	QER60JM-227	E CAPACITOR
	C48	QCS31HJ-560	CAPACITOR
	C49	QER60JM-227	E CAPACITOR
	C50	QER61AM-107	E CAPACITOR
	C51	QEK41CM-227	E CAPACITOR
	C52	QCF31HP-223	CAPACITOR
	C53	QCF31HP-223	CAPACITOR
	C54	QER61CM-476	E CAPACITOR
	C55	QER61CM-476	E CAPACITOR
	C56	QER60JM-227	E CAPACITOR
	C57	QER61HM-105	E CAPACITOR
	C58	QCF31HP-223	CAPACITOR
	C59	QCF31HP-223	CAPACITOR
	C60	QER61CM-476	E CAPACITOR
	C61	QER61HM-105	E CAPACITOR
	C62	QER61CM-226	E CAPACITOR
	C63	QER61HM-335	E CAPACITOR
	C64	QER61HM-335	E CAPACITOR
	C65	QER61AM-476	E CAPACITOR
	C66	QCF31HP-223	CAPACITOR
	C67	QER61AM-476	E CAPACITOR
	C68	QCF31HP-223	CAPACITOR
	C69	QER61CM-106	E CAPACITOR
	C70	QER61HM-335	E CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C71	QFN31HK-473	M CAPACITOR
	C72	QCF31HP-223	CAPACITOR
	C73	QER61AM-476	E CAPACITOR
	C74	QER61CM-226	E CAPACITOR
	C75	QER61HM-335	E CAPACITOR
	C76	QER61HM-335	E CAPACITOR
	C77	QER61AM-476	E CAPACITOR
	C78	QCF31HP-223	CAPACITOR
	C79	QER61AM-476	E CAPACITOR
	C80	QCF31HP-223	CAPACITOR
	C81	QER61CM-106	E CAPACITOR
	C82	QER41HM-335	E CAPACITOR
	C83	QFN31HK-473	M CAPACITOR
	C84	QER60JM-476	E CAPACITOR
	C85	QCF31HP-223	CAPACITOR
	C86	QETA1CM-107	E CAPACITOR
	C87	QCT25CH-100	CAPACITOR
	C88	QETA0JM-477	E CAPACITOR
	C89	QCS31HJ-120	CAPACITOR
	C90	QER61CM-476	E CAPACITOR
	C91	QCS31HJ-560	CAPACITOR
	C92	QER41CM-107	E CAPACITOR
	C93	QER61CM-476	E CAPACITOR
	C94	QCT25CH-100	CAPACITOR
	C95	QETA0JM-477	E CAPACITOR
	C96	QETA1CM-107	E CAPACITOR
	C97	QCF31HP-223	CAPACITOR
	C98	QCS31HJ-120	CAPACITOR
	C99	QER61CM-476	E CAPACITOR
	C100	QCS31HJ-560	CAPACITOR
	C101	QER41CM-107	E CAPACITOR
	C102	QER61CM-476	E CAPACITOR
	C103	QER61CM-476	E CAPACITOR
	C104	QER61CM-476	E CAPACITOR
	C105	QCF31HP-223	CAPACITOR
	C106	QEK41CM-227	E CAPACITOR
	C107	QFN31HK-103	M CAPACITOR
	C108	QER61CM-106	E CAPACITOR
	C109	QER61CM-106	E CAPACITOR
	C110	QCF31HP-223	CAPACITOR
	C111	QER61CM-476	E CAPACITOR
	C112	QER61CM-106	E CAPACITOR
	C113	QER61CM-106	E CAPACITOR
	C114	QER61CM-476	E CAPACITOR
	C115	QCF31HP-223	CAPACITOR
	C116	QEK41CM-227	E CAPACITOR
	C117	QER41AM-107	E CAPACITOR
	C118	QEK41CM-227	E CAPACITOR
	C119	QEE41CM-106	CAPACITOR
	C120	QEE41CM-106	CAPACITOR
	C121	QEE41CM-106	CAPACITOR
	C122	QCS31HJ-3R0	CAPACITOR
	C124	QER41CM-226	E CAPACITOR
	L1	PU48530-221J	COIL
	L2	PU48530-221J	COIL
	L3	PU48530-221J	COIL
	L4	PU48530-221J	COIL
	L5	PU48530-101J	COIL
	L6	PU48530-221J	COIL
	L7	PU48530-221J	COIL
	L8	PU48530-221J	COIL
	L9	PU48530-221J	COIL
	L10	PU48530-121J	COIL
	L11	PU48530-470J	COIL
	L12	PU48530-221J	COIL
	L13	PU48530-221J	COIL
	L14	PU48530-221J	COIL
	L15	PU48530-221J	COIL
	L16	PU48530-221J	COIL
	L17	PU48530-221J	COIL
	L18	PU48530-221J	COIL
	L19	PU48530-221J	COIL
	L20	PU48530-150J	COIL
	L21	PU48530-221J	COIL
	L22	PU48530-150J	COIL
	L23	PU48530-221J	COIL
	L24	PU48530-560J	COIL
	L25	PU48530-121J	COIL
	L26	PU48530-221J	COIL
	L27	PU48530-821J	COIL
	L29	PU48530-100J	COIL
	LPF1	PU60737	LOW PASS FILTER
	LPF2	PU58021-3	LOW PASS FILTER
	LPF3	PGZ00693	LOW PASS FILTER
	LPF4	PGZ00693	LOW PASS FILTER
	DL1	PGZ00131-015	DELAY LINE
	DL2	PGZ00545	DELAY LINE
	DL3	PGZ00131-002	DELAY LINE
⚠	X1	PGZ00957	CRYSTAL RESONATOR
⚠	K3	PGZ00354	FERRITE BEADS, X2
⚠	TH1	ERT-D2FHK-202S	THERMISTOR
⚠	TH2	ERT-D2FHL102S	THERMISTOR
⚠	TH3	ERT-D2FHL102S	THERMISTOR
	SLD1	PRD30254	SHIELD CASE
	SLD2	PRD30255	SHIELD CAP
	SLD3	PRS30012B	SHIELD ASSY
	SLD4	PRS30003-02	SHIELD CASE
	TP1	PU54983	TEST PIN, X22
	CN1	PU58844-108	CAP HOUSING
	CN2	PU58844-104R	CAP HOUSING
	CN3	PU58844-110	CAP HOUSING

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6.2.45 REC COLOUR BOARD ASSEMBLY <66>

	PWBA	PRK20015A-01	REC COLOUR BOARD ASSY
	IC1	VC2096	IC
	IC2	VC2096	IC
	IC3	TA7347P	IC
	IC4	TA7348P	IC
	IC5	VC2096	IC
	IC6	VC2096	IC
	IC7	VC2096	IC
	IC8	TA7348P	IC
	IC9	VC2096	IC
	IC10	TA7347P	IC
	IC11	AN608P	IC
	IC12	TA7347P	IC
	IC13	AN6360	IC
⚠	IC14	AN6371	IC
	IC15	VC2096	IC
	IC16	VC2096	IC
	IC17	TA7347P	IC
	IC18	VC2096	IC

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	IC19	VC2096	IC
	IC20	TA7347P	IC
	IC21	TA7348P	IC
	IC22	TC4052BP	IC
	IC23	AN6362	IC
	IC24	TC4538BP	IC
	IC25	TC4538BP	IC
	IC26	BA401	IC
	IC27	BA401	IC
⚠	IC28	AN6371	IC
⚠	IC29	AN6371	IC
	IC30	VC2501	IC
	Q1	DTC144EF	TRANSISTOR
	Q2	2SC2647C	TRANSISTOR
	Q3	DTC144EF	TRANSISTOR
	Q4	2SC2647C	TRANSISTOR
	Q5	2SC2647C	TRANSISTOR
	Q6	2SC2647C	TRANSISTOR
	Q7	2SC2647C	TRANSISTOR
	Q8	2SC2647C	TRANSISTOR
	Q9	DTC144EF	TRANSISTOR
	Q10	DTC144EF	TRANSISTOR
	Q11	DTC144EF	TRANSISTOR
	Q12	DTC144EF	TRANSISTOR
	Q13	2SC2647C	TRANSISTOR
	Q14	2SC2647C	TRANSISTOR
	Q15	2SC2647C	TRANSISTOR
	Q16	2SC2647C	TRANSISTOR
	Q17	2SC2647C	TRANSISTOR
	Q18	2SC2647C	TRANSISTOR
	Q19	2SC2647C	TRANSISTOR
	Q20	DTC144EF	TRANSISTOR
	Q21	DTC144EF	TRANSISTOR
	Q22	DTC144EF	TRANSISTOR
	Q23	2SC2647C	TRANSISTOR
	Q24	2SB641Q	TRANSISTOR
	Q25	2SC2647C	TRANSISTOR
	Q26	2SC2647C	TRANSISTOR
	Q27	2SC2647C	TRANSISTOR
	Q28	DTC144EF	TRANSISTOR
	Q29	DTC144EF	TRANSISTOR
	Q30	2SC2647C	TRANSISTOR
	Q31	2SC2647C	TRANSISTOR
	Q32	DTC144EF	TRANSISTOR
	Q33	2SK30A-OY	TRANSISTOR
	Q34	2SD638Q	TRANSISTOR
	Q35	2SD638Q	TRANSISTOR
	Q36	2SC2647C	TRANSISTOR
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	D9	1SS99	DIODE
	D10	1SS99	DIODE
	R1	QRD161J-153	RESISTOR
	R2	QRD163J-102	RESISTOR
	R3	QRD161J-223	RESISTOR
	R4	QRD161J-223	RESISTOR
	R5	QRD161J-332	RESISTOR
	R6	QRD161J-102	RESISTOR
	R7	QRD161J-102	RESISTOR
	R8	QVZ3513-222	V RESISTOR
	R9	QVZ3513-222	V RESISTOR
	R10	QVZ3513-222	V RESISTOR
	R11	QVZ3513-222	V RESISTOR
	R12	QRD161J-181	RESISTOR
	R13	QRD161J-223	RESISTOR
	R14	QRD161J-223	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R15	QRD161J-223	RESISTOR
	R16	QRD161J-181	RESISTOR
	R17	QRD161J-181	RESISTOR
	R18	QRD161J-393	RESISTOR
	R19	QRD161J-682	RESISTOR
	R20	QRD161J-102	RESISTOR
	R21	QRD161J-271	RESISTOR
	R22	QRD161J-102	RESISTOR
	R23	QVZ3513-222	V RESISTOR
	R24	QVZ3513-222	V RESISTOR
	R25	QRD161J-223	RESISTOR
	R26	QRD161J-223	RESISTOR
	R27	QRD161J-104	RESISTOR
	R28	QVZ3513-222	V RESISTOR
	R29	QRD161J-183	RESISTOR
	R30	QRD163J-562	RESISTOR
	R31	QRD163J-102	RESISTOR
	R32	QRD163J-102	RESISTOR
	R33	QRD161J-102	RESISTOR
	R34	QRD161J-122	RESISTOR
	R35	QRD161J-561	RESISTOR
	R36	QRD161J-102	RESISTOR
	R37	QVZ3513-222	V RESISTOR
	R38	QVZ3513-222	V RESISTOR
	R39	QVZ3513-222	V RESISTOR
	R40	QVZ3513-222	V RESISTOR
	R41	QRD161J-223	RESISTOR
	R42	QRD161J-223	RESISTOR
	R43	QRD161J-181	RESISTOR
	R44	QRD161J-223	RESISTOR
	R45	QVZ3513-102	V RESISTOR
	R46	QRD161J-223	RESISTOR
	R47	QRD161J-392	RESISTOR
	R48	QRD161J-182	RESISTOR
	R49	QRD161J-181	RESISTOR
	R50	QRD161J-223	RESISTOR
	R51	QRD161J-223	RESISTOR
	R52	QRD161J-472	RESISTOR
	R53	QRD161J-223	RESISTOR
	R54	QVZ3513-102	V RESISTOR
	R55	QVZ3513-102	V RESISTOR
	R56	QRD161J-153	RESISTOR
	R57	QRD161J-103	RESISTOR
	R58	QRD161J-684	RESISTOR
	R59	QRD161J-224	RESISTOR
	R60	QRD161J-183	RESISTOR
	R61	QRD161J-562	RESISTOR
	R62	QRD161J-221	RESISTOR
	R63	QRD161J-392	RESISTOR
	R64	QRD163J-102	RESISTOR
	R65	QRD163J-102	RESISTOR
	R66	QRD161J-152	RESISTOR
	R67	QRD161J-152	RESISTOR
	R68	QRD161J-152	RESISTOR
	R69	QRD161J-681	RESISTOR
	R70	QRD161J-561	RESISTOR
	R71	QRD161J-152	RESISTOR
	R72	QRD161J-333	RESISTOR
	R73	QRD161J-333	RESISTOR
	R74	QRD161J-182	RESISTOR
	R75	QRD161J-471	RESISTOR
	R76	QRD161J-222	RESISTOR
	R77	QRD161J-394	RESISTOR
	R78	QRD161J-473	RESISTOR
	R79	QRD161J-393	RESISTOR
	R80	QRD161J-472	RESISTOR
	R81	QRD161J-472	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R82	QRD161J-472	RESISTOR
	R83	QRD161J-223	RESISTOR
	R84	QRD161J-332	RESISTOR
	R85	QVZ3513-222	V RESISTOR
	R86	QVZ3513-222	V RESISTOR
	R87	QRD161J-221	RESISTOR
	R88	QVZ3513-222	V RESISTOR
	R89	QRD161J-181	RESISTOR
	R90	QRD161J-223	RESISTOR
	R91	QVZ3513-222	V RESISTOR
	R92	QVZ3513-222	V RESISTOR
	R93	QVZ3513-222	V RESISTOR
	R94	QVZ3513-222	V RESISTOR
	R95	QRD161J-181	RESISTOR
	R96	QRD161J-223	RESISTOR
	R97	QRD163J-223	RESISTOR
	R100	QRD163J-223	RESISTOR
	R101	QRD161J-181	RESISTOR
	R102	QRD161J-223	RESISTOR
	R103	QRD161J-682	RESISTOR
	R104	QRD161J-102	RESISTOR
	R105	QRD161J-681	RESISTOR
	R106	QRD163J-0R0	RESISTOR
	R107	QRD163J-122	RESISTOR
	R108	QRD161J-102	RESISTOR
	R109	QRD161J-0R0	RESISTOR
	R110	QRD161J-102	RESISTOR
	R111	QRD161J-273	RESISTOR
	R112	QRD161J-223	RESISTOR
	R113	QRD161J-103	RESISTOR
	R114	QRD161J-104	RESISTOR
	R115	QRD161J-104	RESISTOR
	R116	QRD161J-332	RESISTOR
	R117	QRD161J-104	RESISTOR
	R118	QRD161J-104	RESISTOR
	R119	QRD161J-332	RESISTOR
	R120	QVZ3513-681	V RESISTOR
	R121	QRD161J-153	RESISTOR
	R122	QRD161J-153	RESISTOR
	R123	QVZ3513-681	V RESISTOR
	R124	QRD161J-153	RESISTOR
	R125	QRD161J-153	RESISTOR
	R126	QRD161J-181	RESISTOR
	R127	QRD161J-181	RESISTOR
	R129	QRD161J-222	RESISTOR
	R130	QRD161J-223	RESISTOR
	R131	QRD161J-223	RESISTOR
	R132	QRD161J-473	RESISTOR
	R133	QRD161J-471	RESISTOR
	R134	QRD161J-122	RESISTOR
	R135	QVZ3513-471	V RESISTOR
	R136	QRD121J-681	RESISTOR
	R137	QRD161J-222	RESISTOR
	R138	QRD161J-562	RESISTOR
	R139	QRD161J-123	RESISTOR
	R140	QRD161J-471	RESISTOR
	R141	QRD161J-562	RESISTOR
	R142	QRD161J-561	RESISTOR
	R143	QRD161J-223	RESISTOR
	R144	QRD161J-223	RESISTOR
	R145	QRD161J-562	RESISTOR
	R146	QVZ3513-103	V RESISTOR
	R147	QRD161J-682	RESISTOR
	R148	QVZ3513-103	V RESISTOR
	R149	QRD161J-103	RESISTOR
	R150	QRD161J-122	RESISTOR
	R151	QRD161J-152	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R152	QRD161J-222	RESISTOR
	R153	QRD161J-152	RESISTOR
	R154	QRD161J-222	RESISTOR
	R155	QRD161J-103	RESISTOR
	R156	QRD161J-472	RESISTOR
	R157	QRD161J-223	RESISTOR
	R158	QRD161J-103	RESISTOR
	R159	QVZ3513-223	V RESISTOR
	R160	QRD161J-472	RESISTOR
	R161	QVZ3513-103	V RESISTOR
	R162	QRD161J-102	RESISTOR
	R163	QRD161J-561	RESISTOR
	R164	QRD161J-102	RESISTOR
	R165	QRD161J-102	RESISTOR
	R166	QRD161J-392	RESISTOR
	R167	QRD161J-102	RESISTOR
	R168	QRD161J-272	RESISTOR
	R169	QRD161J-333	RESISTOR
	R170	QRD161J-184	RESISTOR
	R171	QRD161J-182	RESISTOR
	R172	QRD161J-222	RESISTOR
	R173	QRD161J-274	RESISTOR
	R174	QRD161J-222	RESISTOR
	R175	QRD161J-183	RESISTOR
	R176	QRD161J-184	RESISTOR
	R177	QRD161J-272	RESISTOR
	R178	QRD161J-222	RESISTOR
	R179	QRD161J-274	RESISTOR
	R180	QRD161J-103	RESISTOR
	R181	QRD161J-222	RESISTOR
	R182	QRD161J-182	RESISTOR
	R184	QRD163J-0R0	RESISTOR
	R187	QRD161J-0R0	RESISTOR
	R192	QRD161J-0R0	RESISTOR
	R193	QRD161J-152	RESISTOR
	R194	QRD161J-222	RESISTOR
	C1	QER61CM-476	E CAPACITOR
	C2	QCF31HP-223	CAPACITOR
	C3	QCF31HP-223	CAPACITOR
	C4	QER61CM-476	E CAPACITOR
	C5	QEPA1HM-105	NP E CAPACITOR
	C6	QCF31HP-223	CAPACITOR
	C7	QFN31HK-223	M CAPACITOR
	C8	QFN31HK-223	M CAPACITOR
	C9	QFN31HK-223	M CAPACITOR
	C10	QFN31HK-223	M CAPACITOR
	C11	QFN31HK-223	M CAPACITOR
	C12	QER61CM-476	E CAPACITOR
	C13	QCF31HP-223	CAPACITOR
	C14	QFN31HK-223	M CAPACITOR
	C15	QFN31HK-223	M CAPACITOR
	C16	QER61CM-476	E CAPACITOR
	C17	QCF31HP-223	CAPACITOR
	C18	QCF31HP-223	CAPACITOR
	C19	QFN31HK-223	M CAPACITOR
	C20	QFN31HK-223	M CAPACITOR
	C21	QCS31HJ-150	CAPACITOR
	C22	QCS31HJ-271	CAPACITOR
	C23	QCS31HJ-220	CAPACITOR
	C24	QCF31HP-103	CAPACITOR
	C25	QFN31HK-223	M CAPACITOR
	C26	QER61CM-476	E CAPACITOR
	C27	QCF31HP-223	CAPACITOR
	C28	QFN31HJ-682	M CAPACITOR
	C29	QFN31HK-223	M CAPACITOR
	C30	QFN31HK-223	M CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C31	QFN31HK-223	M CAPACITOR
	C32	QFN31HK-223	M CAPACITOR
	C33	QFN31HK-223	M CAPACITOR
	C34	QER61CM-476	E CAPACITOR
	C35	QCF31HP-223	CAPACITOR
	C36	QFN31HK-223	M CAPACITOR
	C37	QFN31HK-223	M CAPACITOR
	C38	QFN31HK-223	M CAPACITOR
	C39	QCF31HP-223	CAPACITOR
	C40	QER61CM-476	E CAPACITOR
	C41	QCF31HP-223	CAPACITOR
	C42	QFN31HK-223	M CAPACITOR
	C43	QFN31HK-223	M CAPACITOR
	C44	QFN31HK-223	M CAPACITOR
	C45	QER61CM-476	E CAPACITOR
	C46	QCF31HP-223	CAPACITOR
	C47	QFN31HK-223	M CAPACITOR
	C48	QCF31HP-223	CAPACITOR
	C49	QFN31HK-103	M CAPACITOR
	C50	QCF31HP-223	CAPACITOR
	C51	QEE40JM-476	E CAPACITOR
	C52	QFN31HK-103	M CAPACITOR
	C53	QCF31HP-103	CAPACITOR
	C54	QCF31HP-103	CAPACITOR
	C56	QCF31HP-102	CAPACITOR
	C57	QFN31HK-103	M CAPACITOR
	C58	QFN31HK-103	M CAPACITOR
	C59	QCS31HJ-5R0	CAPACITOR
	C60	QCF31HP-103	CAPACITOR
	C61	QER61CM-476	E CAPACITOR
	C62	QCF31HP-223	CAPACITOR
	C63	QFN31HK-104	M CAPACITOR
	C64	QCF31HP-102	CAPACITOR
	C65	QFN31HK-223	M CAPACITOR
	C66	QCF31HP-223	CAPACITOR
	C67	QFN31HK-223	M CAPACITOR
	C68	QFN31HK-223	M CAPACITOR
	C69	QFN31HK-223	M CAPACITOR
	C70	QCF31HP-103	CAPACITOR
	C71	QER61CM-476	E CAPACITOR
	C72	QCF31HP-223	CAPACITOR
⚠	C73	QCS31HJ-6R0	CAPACITOR
	C74	QAT3001-016	TRIMMER CAPACITOR
⚠	C75	QCS31HJ-4R0	CAPACITOR
	C76	QFN31HK-103	M CAPACITOR
	C77	QFN31HK-103	M CAPACITOR
	C78	QER61CM-106	E CAPACITOR
	C79	QCF31HP-103	CAPACITOR
	C80	QCF31HP-223	CAPACITOR
	C81	QFN31HK-223	M CAPACITOR
	C82	QCF31HP-223	CAPACITOR
	C83	QFN31HK-223	M CAPACITOR
	C84	QFN31HK-223	M CAPACITOR
	C85	QFN31HK-223	M CAPACITOR
	C86	QFN31HK-223	M CAPACITOR
	C87	QCF31HP-223	CAPACITOR
	C88	QER61CM-476	E CAPACITOR
	C89	QCF31HP-223	CAPACITOR
	C90	QFN31HK-223	M CAPACITOR
	C91	QFN31HK-223	M CAPACITOR
	C92	QFN31HK-223	M CAPACITOR
	C93	QFN31HK-223	M CAPACITOR
	C94	QCF31HP-223	CAPACITOR
	C95	QER61CM-476	E CAPACITOR
	C96	QCF31HP-223	CAPACITOR
	C97	QFN31HK-223	M CAPACITOR
	C99	QER61CM-476	E CAPACITOR
	C100	QCF31HP-223	CAPACITOR
	C101	QFN31HK-223	M CAPACITOR
	C102	QFN31HK-223	M CAPACITOR
	C103	QFN31HK-223	M CAPACITOR
	C104	QFN31HK-223	M CAPACITOR
	C105	QFN31HK-223	M CAPACITOR
	C106	QFN31HK-223	M CAPACITOR
	C107	QFN31HK-223	M CAPACITOR
	C108	QFN31HK-223	M CAPACITOR
	C109	QFN31HK-223	M CAPACITOR
	C110	QFN31HK-223	M CAPACITOR
	C111	QFN31HK-223	M CAPACITOR
	C112	QER61CM-476	E CAPACITOR
	C113	QCF31HP-223	CAPACITOR
	C114	QFN31HK-223	M CAPACITOR
	C115	QFN31HK-223	M CAPACITOR
	C116	QCS31HJ-681	CAPACITOR
	C117	QCT25CH-121	CAPACITOR
	C118	QCT25CH-181	CAPACITOR
	C119	QFN31HK-183	M CAPACITOR
	C120	QER61CM-106	E CAPACITOR
	C121	QFN31HK-102	M CAPACITOR
	C122	QFN31HK-104	M CAPACITOR
	C123	QCS31HJ-821	CAPACITOR
	C124	QFN31HK-104	M CAPACITOR
	C125	QER61HM-105	E CAPACITOR
	C126	QER61CM-476	E CAPACITOR
	C127	QCF31HP-223	CAPACITOR
	C128	QCF31HP-223	CAPACITOR
	C129	QETA1CM-227	E CAPACITOR
	C130	QCF31HP-223	CAPACITOR
	C131	QCT25CH-101	CAPACITOR
	C132	QCT25CH-271	CAPACITOR
	C133	QCF31HP-223	CAPACITOR
	C134	QER61CM-476	E CAPACITOR
	C135	QER61CM-106	E CAPACITOR
	C136	QCT25CH-101	CAPACITOR
	C137	QCT25CH-271	CAPACITOR
	C138	QCF31HP-223	CAPACITOR
	C139	QER61CM-476	E CAPACITOR
	C140	QFN31HK-333	M CAPACITOR
	C141	QCF31HP-223	CAPACITOR
	C142	QER61CM-476	E CAPACITOR
	C143	QER61CM-106	E CAPACITOR
	C144	QCS31HJ-151	CAPACITOR
	C145	QFN31HK-333	M CAPACITOR
	C146	QER61CM-106	E CAPACITOR
	C147	QFN31HK-273	M CAPACITOR
	C148	QCF31HP-103	CAPACITOR
	C149	QER61CM-476	E CAPACITOR
	C150	QCF31HP-223	CAPACITOR
⚠	C151	QCS31HJ-6R0	CAPACITOR
	C152	QAT3001-016	TRIMMER CAPACITOR
⚠	C153	QCS31HJ-4R0	CAPACITOR
	C154	QFN31HK-103	M CAPACITOR
	C155	QFN31HK-103	M CAPACITOR
	C156	QER61CM-106	E CAPACITOR
	C157	QCF31HP-223	CAPACITOR
	C158	QCF31HP-223	CAPACITOR
	C159	QER61HM-225GZ	E CAPACITOR
	C160	QFN31HK-103	M CAPACITOR
	C161	QFN31HK-103	M CAPACITOR
	C162	QCS31HJ-150	CAPACITOR
	C163	QCS31HJ-101	CAPACITOR
	C164	QCF31HP-103	CAPACITOR
	C165	QER61CM-476	E CAPACITOR
	C166	QCF31HP-223	CAPACITOR
⚠	C167	QCS31HJ-6R0	CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C168	QAT3001-016	TRIMMER CAPACITOR
⚠	C169	QCS31HJ-4R0	CAPACITOR
	C170	QFN31HK-103	M CAPACITOR
	C171	QFN31HK-103	M CAPACITOR
	C172	QFN31HK-563	M CAPACITOR
	C173	QER61CM-106	E CAPACITOR
	C174	QCF31HP-223	CAPACITOR
	C175	QCF31HP-223	CAPACITOR
	C176	QER61HM-225GZ	E CAPACITOR
	C177	QFN31HK-103	M CAPACITOR
	C178	QAT3001-016	TRIMMER CAPACITOR
	C179	QCT25CH-6R0	CAPACITOR
	C180	QCS31HJ-101	CAPACITOR
	C181	QFN31HK-223	M CAPACITOR
	C182	QCF31HP-223	CAPACITOR
	C183	QFN41HK-223	M CAPACITOR
	C184	QCS11HJ-390	CAPACITOR
	L1	PU48530-221J	COIL
	L2	PU48530-221J	COIL
	L3	PU48530-471J	COIL
	L4	PGZ00917-822	COIL
	L5	PU48530-221J	COIL
	L6	PU48530-821J	COIL
	L7	PU48530-221J	COIL
	L8	PU48530-221J	COIL
	L9	PU48530-221J	COIL
	L10	PU48530-471J	COIL
	L11	PU48530-221J	COIL
	L12	PU48530-560J	COIL
	L13	PU48530-221J	COIL
	L14	PU48530-221J	COIL
	L15	PU48530-221J	COIL
	L16	PU48530-221J	COIL
	L17	PU48530-221J	COIL
	L18	PU48530-221J	COIL
	L19	PU48530-101J	COIL
	L20	PU48530-101J	COIL
	L21	PU48530-221J	COIL
	L22	PU48530-221J	COIL
	L23	PU48530-221J	COIL
	L24	PU48530-221J	COIL
	L25	PU48530-560J	COIL
	L26	PU48530-560J	COIL
	L27	PU48530-221J	COIL
	L28	PU48530-560J	COIL
	L29	PU48530-560J	COIL
	L30	PU48530-221J	COIL
	L31	PGZ00917-822	COIL
	L32	PU48530-471J	COIL
	LPF1	PGZ00630	LOW PASS FILTER
	LPF2	PGZ01085	LOW PASS FILTER
	BPF1	PGZ01193	BAND PASS FILTER
	BPF2	PGZ01247	BAND PASS FILTER
	DL1	PGZ00179-080	DELAY LINE
	DL2	PGZ00528-350	EQUALIZER
	DL3	PGZ00969	DELAY LINE
⚠	X1	PU31449-7	CRYSTAL RESONATOR
⚠	X2	PU31449-4	CRYSTAL RESONATOR
⚠	X3	PU31449-4	CRYSTAL RESONATOR
	SW1	PU54440	SWITCH
	SLD1	PRS30012A	SHIELD ASSY

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	TP1	PU54983	TEST PIN, X30
	CN1	PU58844-111	CAP HOUSING
	CN2	PU58844-110R	CAP HOUSING
	CN3	PU58844-111	CAP HOUSING
	CN4	PU58844-113	CAP HOUSING

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6.2.46 FM REC & PB BOARD ASSEMBLY <67>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK20016A-01	FM R/P BOARD ASSY
	IC1	VC2502	IC
	IC2	VC2502	IC
	IC3	TC4081BP	IC
	IC4	VC2505-2	IC
	IC5	TA7347P	IC
	IC6	VC2097	IC
	IC8	TC74HC74AP	IC
	IC9	TC74HC08AP	IC
	IC10	EPS448PC-20(L02	IC
	IC11	TC74HC04AP	IC
	IC12	AN607P	IC
	IC13	TA7347P	IC
	IC14	TC4052BP	IC
	IC15	TA7347P	IC
	IC16	NJM1496D	IC
	IC17	TC4053BP	IC
	Q1	DTC144EF	TRANSISTOR
	Q2	DTC144EF	TRANSISTOR
	Q3	2SC2647C	TRANSISTOR
	Q4	2SC2647C	TRANSISTOR
	Q5	2SC2647C	TRANSISTOR
	Q6	2SC2647C	TRANSISTOR
	Q7	2SC2647C	TRANSISTOR
	Q8	2SC2647C	TRANSISTOR
	Q12	2SC2647C	TRANSISTOR
	Q13	2SC2647C	TRANSISTOR
	Q14	DTC144EF	TRANSISTOR
	Q15	DTC144EF	TRANSISTOR
	Q16	DTC144EF	TRANSISTOR
	Q17	2SC2647C	TRANSISTOR
	Q18	2SC2647C	TRANSISTOR
	Q19	2SC2647C	TRANSISTOR
	Q20	2SC2647C	TRANSISTOR
	Q21	2SC2647C	TRANSISTOR
	Q22	2SC2647C	TRANSISTOR
	Q23	2SC2647C	TRANSISTOR
	Q24	2SC2647C	TRANSISTOR
	Q25	2SB641Q	TRANSISTOR
	Q26	2SB641Q	TRANSISTOR
	Q27	2SB641Q	TRANSISTOR
	Q28	2SC2647C	TRANSISTOR
	Q29	2SC2647C	TRANSISTOR
	Q30	DTC144EF	TRANSISTOR
	Q60	2SC2647C	TRANSISTOR
	Q61	DTC144EF	TRANSISTOR
	Q62	2SC2647C	TRANSISTOR
	Q63	2SC2647C	TRANSISTOR
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	D5	1SS133	DIODE

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R1	QRD161J-223	RESISTOR
	R2	QRD161J-223	RESISTOR
	R3	QRD161J-223	RESISTOR
	R4	QRD161J-223	RESISTOR
	R5	QRD161J-103	RESISTOR
	R6	QRD161J-223	RESISTOR
	R7	QRD161J-223	RESISTOR
	R8	QRD161J-102	RESISTOR
	R9	QRD161J-102	RESISTOR
	R10	QRD161J-391	RESISTOR
	R11	QRD161J-102	RESISTOR
	R12	QRD161J-223	RESISTOR
	R13	QRD161J-223	RESISTOR
	R14	QRD161J-0R0	RESISTOR
	R15	QRD161J-222	RESISTOR
	R16	QRD161J-102	RESISTOR
	R17	QVZ3513-221	V RESISTOR
	R18	QVZ3513-222	V RESISTOR
	R19	QVZ3513-222	V RESISTOR
	R20	QRD161J-223	RESISTOR
	R21	QRD161J-0R0	RESISTOR
	R22	QVZ3513-222	V RESISTOR
	R23	QVZ3513-222	V RESISTOR
	R24	QRD161J-223	RESISTOR
	R25	QRD161J-103	RESISTOR
	R26	QRD161J-122	RESISTOR
	R27	QRD161J-222	RESISTOR
	R28	QVZ3513-222	V RESISTOR
	R29	QRD161J-102	RESISTOR
	R30	QVZ3513-222	V RESISTOR
	R31	QRD161J-101	RESISTOR
	R32	QVZ3513-222	V RESISTOR
	R33	QVZ3513-222	V RESISTOR
	R34	QRD161J-101	RESISTOR
	R35	QVZ3513-222	V RESISTOR
	R36	QVZ3513-222	V RESISTOR
	R37	QRD161J-122	RESISTOR
	R38	QRD161J-122	RESISTOR
	R40	QRD161J-122	RESISTOR
	R57	QRD161J-221	RESISTOR
	R58	QRD161J-101	RESISTOR
	R59	QRD161J-104	RESISTOR
	R60	QRD161J-681	RESISTOR
	R61	QRD161J-681	RESISTOR
	R62	QRD161J-102	RESISTOR
	R63	QRD161J-472	RESISTOR
	R64	QRD161J-103	RESISTOR
	R65	QRD161J-222	RESISTOR
	R66	QRD161J-103	RESISTOR
	R67	QRD161J-561	RESISTOR
	R68	QRD161J-152	RESISTOR
	R69	QRD161J-333	RESISTOR
	R70	QRD161J-223	RESISTOR
	R71	QRD161J-181	RESISTOR
	R72	QRD161J-223	RESISTOR
	R73	QRD161J-332	RESISTOR
	R74	QRD161J-104	RESISTOR
	R75	QRD161J-104	RESISTOR
	R76	QRD161J-104	RESISTOR
	R77	QRD161J-104	RESISTOR
	R78	QRD161J-392	RESISTOR
	R79	QRD161J-332	RESISTOR
	R80	QRD161J-104	RESISTOR
	R81	QRD161J-104	RESISTOR
	R82	QRD161J-104	RESISTOR
	R83	QRD161J-104	RESISTOR
	R84	QRD161J-392	RESISTOR
	R85	QVZ3513-102	V RESISTOR
	R86	QVZ3513-102	V RESISTOR
	R87	QVZ3513-102	V RESISTOR
	R88	QVZ3513-102	V RESISTOR
	R89	QRD161J-331	RESISTOR
	R90	QRD161J-471	RESISTOR
	R91	QRD161J-333	RESISTOR
	R92	QRD161J-393	RESISTOR
	R93	QRD161J-331	RESISTOR
	R94	QRD161J-471	RESISTOR
	R95	QRD161J-333	RESISTOR
	R96	QRD161J-393	RESISTOR
	R97	QRD161J-0R0	RESISTOR
	R98	QRD161J-681	RESISTOR
	R99	QRD161J-181	RESISTOR
	R100	QRD161J-181	RESISTOR
	R101	QRD161J-181	RESISTOR
	R102	QRD161J-222	RESISTOR
	R104	QRD161J-821	RESISTOR
	R105	QRD161J-102	RESISTOR
	R106	QRD161J-222	RESISTOR
	R107	QRD161J-222	RESISTOR
	R108	QRD161J-471	RESISTOR
	R109	QRD161J-471	RESISTOR
	R110	QRD161J-222	RESISTOR
	R111	QRD161J-471	RESISTOR
	R112	QRD161J-473	RESISTOR
	R113	QRD161J-183	RESISTOR
	R114	QRD161J-272	RESISTOR
	R115	QRD161J-272	RESISTOR
	R116	QRD161J-561	RESISTOR
	R117	QRV141F-3301AY	CMF RESISTOR
	R118	QRV141F-2871AY	CMF RESISTOR
	R119	QRD161J-102	RESISTOR
	R120	QRD161J-102	RESISTOR
	R121	QRD161J-223	RESISTOR
	R122	QRD161J-181	RESISTOR
	R123	QRD161J-561	RESISTOR
	R124	QRD161J-181	RESISTOR
	R125	QRD161J-562	RESISTOR
	R126	QRD161J-102	RESISTOR
	R127	QRD161J-103	RESISTOR
	R128	QRD161J-103	RESISTOR
	R131	QRD161J-103	RESISTOR
	R132	QRD161J-103	RESISTOR
	R133	QRD161J-103	RESISTOR
	R134	QRD161J-103	RESISTOR
	R135	QRD161J-103	RESISTOR
	R219	QRD161J-0R0	RESISTOR
	R220	QRD161J-223	RESISTOR
	R221	QRD161J-102	RESISTOR
	R222	QRD161J-223	RESISTOR
	R223	QRD161J-103	RESISTOR
	R224	QRD161J-102	RESISTOR
	R225	QRD161J-103	RESISTOR
	R226	QRD161J-103	RESISTOR
	R227	QRD161J-101	RESISTOR
	R228	QRD161J-101	RESISTOR
	R229	QRD161J-103	RESISTOR
	R230	QRD161J-0R0	RESISTOR
	R231	QRD161J-103	RESISTOR
	R232	QRD161J-0R0	RESISTOR
	R233	QRD161J-104	RESISTOR
	RA1	EXB-P88104M	RESISTOR ARRAY

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C1	QER41HM-105	E CAPACITOR
	C2	QER41CM-226	E CAPACITOR
	C3	QER41HM-105	E CAPACITOR
	C4	QER41CM-226	E CAPACITOR
	C5	QER41CM-476	E CAPACITOR
	C6	QCF11HP-223	CAPACITOR
	C7	QFN41HK-223	M CAPACITOR
	C8	QER41CM-476	E CAPACITOR
	C9	QCF11HP-223	CAPACITOR
	C10	QFN41HK-223	M CAPACITOR
	C11	QER41CM-476	E CAPACITOR
	C12	QCF11HP-223	CAPACITOR
	C13	QCS11HJ-680	CAPACITOR
	C14	QCS11HJ-560	CAPACITOR
	C15	QCF11HP-223	CAPACITOR
	C16	QER41CM-476	E CAPACITOR
	C17	QCS11HJ-560	CAPACITOR
	C18	QCS11HJ-151	CAPACITOR
	C19	QER40JM-476	E CAPACITOR
	C20	QER41CM-476	E CAPACITOR
	C21	QCS11HJ-100	CAPACITOR
	C22	QCS11HJ-101	CAPACITOR
	C23	QEE40JM-476	E CAPACITOR
	C24	QER41CM-106	E CAPACITOR
	C25	QER41CM-476	E CAPACITOR
	C26	QCF11HP-223	CAPACITOR
	C27	QFN41HK-223	M CAPACITOR
	C28	QFN41HK-223	M CAPACITOR
	C30	QFN41HK-223	M CAPACITOR
	C31	QFN41HK-223	M CAPACITOR
	C32	QFN41HK-223	M CAPACITOR
	C33	QFN41HK-223	M CAPACITOR
	C34	QER41CM-476	E CAPACITOR
	C35	QCF11HP-223	CAPACITOR
	C36	QCF11HP-223	CAPACITOR
	C37	QER41CM-476	E CAPACITOR
	C38	QCFB1EZ-223	CAPACITOR
	C39	QCFB1EZ-223	CAPACITOR
	C40	QER41CM-476	E CAPACITOR
	C41	QCFB1EZ-223	CAPACITOR
	C42	QCFB1EZ-223	CAPACITOR
	C43	QCFB1EZ-223	CAPACITOR
	C44	QCFB1EZ-223	CAPACITOR
	C45	QER41CM-476	E CAPACITOR
	C46	QFN41HK-223	M CAPACITOR
	C47	QFN41HK-223	M CAPACITOR
	C48	QFN41HK-223	M CAPACITOR
	C49	QCF11HP-223	CAPACITOR
	C50	QER41CM-476	E CAPACITOR
	C51	QFN41HK-223	M CAPACITOR
	C52	QFN41HK-223	M CAPACITOR
	C53	QER41CM-476	E CAPACITOR
	C54	QCF11HP-223	CAPACITOR
	C55	QCF11HP-223	CAPACITOR
	C56	QER41CM-476	E CAPACITOR
	C57	QFN41HK-223	M CAPACITOR
	C58	QFN41HK-223	M CAPACITOR
	C59	QCF11HP-223	CAPACITOR
	C60	QCF11HP-223	CAPACITOR
	C61	QFN41HK-223	M CAPACITOR
	C62	QFN41HK-223	M CAPACITOR
	C63	QFN41HK-223	M CAPACITOR
	C64	QFN41HK-223	M CAPACITOR
	C65	QCF11HP-223	CAPACITOR
	C66	QER41CM-476	E CAPACITOR
	C67	QFN41HK-223	M CAPACITOR
	C68	QFN41HK-223	M CAPACITOR
	C69	QFN41HK-223	M CAPACITOR
	C70	QFN41HK-223	M CAPACITOR
	C71	QFN41HK-223	M CAPACITOR
	C72	QFN41HK-223	M CAPACITOR
	C73	QFN41HK-223	M CAPACITOR
	C74	QFN41HK-223	M CAPACITOR
	C75	QFN41HK-223	M CAPACITOR
	C76	QCF11HP-223	CAPACITOR
	C77	QER41CM-476	E CAPACITOR
	C78	QCS11HJ-220	CAPACITOR
	C79	QCS11HJ-330	CAPACITOR
	C80	QER41CM-476	E CAPACITOR
	C81	QCF11HP-223	CAPACITOR
	C82	QCF11HP-223	CAPACITOR
	C83	QCF11HP-223	CAPACITOR
	C84	QCF11HP-223	CAPACITOR
	C85	QER41CM-476	E CAPACITOR
	C86	QCF11HP-223	CAPACITOR
	C87	QER41CM-476	E CAPACITOR
	C88	QCF11HP-223	CAPACITOR
	C138	QFN41HK-223	M CAPACITOR
	C139	QCFB1EZ-223	CAPACITOR
	C140	QFN41HK-223	M CAPACITOR
	C141	QFN41HK-223	M CAPACITOR
	C142	QFN41HK-223	M CAPACITOR
	C143	QFN41HK-223	M CAPACITOR
	C145	QCS11HJ-101	CAPACITOR
	L1	PU48530-271J	COIL
	L2	PU48530-221J	COIL
	L3	PU48530-271J	COIL
	L4	PU48530-221J	COIL
	L5	PU48530-221J	COIL
	L6	PU48530-221J	COIL
	L7	PU48530-100J	COIL
	L8	PU48530-101J	COIL
	L9	PU48530-101J	COIL
	L10	PU48530-390J	COIL
	L11	PU48530-5R6J	COIL
	L12	PU48530-221J	COIL
	L13	PU48530-221J	COIL
	L14	PU48530-221J	COIL
	L15	PU53223-101J	COIL
	L16	PU48530-221J	COIL
	L17	PU48530-221J	COIL
	L18	PU48530-221J	COIL
	L19	PU48530-221J	COIL
	L20	PU48530-221J	COIL
	L21	PU48530-180J	COIL
	L22	PU48530-330J	COIL
	L23	PU48530-221J	COIL
	L24	PU48530-221J	COIL
	L25	PU48530-221J	COIL
⚠	X1	PU59642	CRYSTAL RESONATOR
	S1	QSS1K81-L01	DIP SWITCH
⚠	K1	PGZ00354	FERRITE BEADS
⚠	K2	QRD167J-0R0	RESISTOR
	HD1	PGZ00606-02	PWB HOLDER, X6
	SLD1	PRS30017	SHIELD CASE
	SPC1	PGZ00605-02	PWB SPACER, X6
	TP1	PU54983	TEST PIN, X5

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*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	CN2	PGZ00421-64	MALE CONNECTOR

-FREQUENCY AUTO BOARD ASSY-

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK20023A-01	FREQUENCY AUTO BOARD ASSY
	IC18	HMC-229	IC
	IC19	AN608P	IC
	IC20	UPC358G2	IC
	IC21	AN1084S	IC
	IC22	AN608P	IC
	IC23	HMC-229	IC
	IC24	AN608P	IC
	IC25	MN4066BS	IC
	IC26	MN4066BS	IC
	IC27	UPC358G2	IC
	IC28	MN4052BS	IC
	Q31	2SA1022C	TRANSISTOR
	Q32	FMW1	TRANSISTOR
	Q33	2SA1022C	TRANSISTOR
	Q34	DTC144EK	TRANSISTOR
	Q35	DTC144EK	TRANSISTOR
	Q36	2SJ105	FE TRANSISTOR
	Q37	2SC2778C	TRANSISTOR
	Q38	2SA1022C	TRANSISTOR
	Q39	FMW1	TRANSISTOR
	Q40	2SA1022C	TRANSISTOR
	Q41	DTC114EK	TRANSISTOR
	Q42	DTC114EK	TRANSISTOR
	Q43	DTC144EK	TRANSISTOR
	Q44	DTC114EK	TRANSISTOR
	Q45	DTC144EK	TRANSISTOR
	Q46	DTC114EK	TRANSISTOR
	Q47	FMW1	TRANSISTOR
	Q48	FMS1	TRANSISTOR
	Q49	2SC2778C	TRANSISTOR
	Q50	2SA1022C	TRANSISTOR
	Q51	2SC2778C	TRANSISTOR
	Q52	2SA1022C	TRANSISTOR
	Q53	2SC2778C	TRANSISTOR
	Q54	DTC144EK	TRANSISTOR
	Q55	DTC144EK	TRANSISTOR
	Q56	DTC144EK	TRANSISTOR
	Q57	DTC144EK	TRANSISTOR
	Q58	DTC144EK	TRANSISTOR
	Q59	2SC2778C	TRANSISTOR
	D3	1SS133	DIODE
	D4	DAN202K	DIODE ARRAY
	R136	QRSA08J-393YN	RESISTOR
	R137	QRSA08J-223YN	RESISTOR
	R138	QRSA08J-181YN	RESISTOR
	R139	QRSA08J-272YN	RESISTOR
	R140	QRSA08J-681YN	RESISTOR
	R141	QRSA08J-562YN	RESISTOR
	R142	QRSA08J-222YN	RESISTOR
	R143	QRSA08J-222YN	RESISTOR
	R144	QRSA08J-102YN	RESISTOR
	R145	QRSA08J-222YN	RESISTOR
	R146	QRSA08J-471YN	RESISTOR
	R147	QRSA08J-102YN	RESISTOR
	R148	QRSA08J-182YN	RESISTOR
	R149	QRSA08J-332YN	RESISTOR
	R150	QRSA08J-102YN	RESISTOR
	R151	QRSA08J-102YN	RESISTOR
	R152	QRSA08J-102YN	RESISTOR
	R153	QRSA08J-103YN	RESISTOR
	R154	QRSA08J-102YN	RESISTOR
	R155	QRSA08J-102YN	RESISTOR
	R156	QRSA08J-102YN	RESISTOR
	R157	QRSA08J-333YN	RESISTOR
	R158	QRSA08J-822YN	RESISTOR
	R159	QRSA08J-103YN	RESISTOR
	R160	QRSA08J-103YN	RESISTOR
	R161	QRSA08J-103YN	RESISTOR
	R162	QRSA08J-105YN	RESISTOR
	R163	QRSA08J-103YN	RESISTOR
	R164	QRSA08J-222YN	RESISTOR
	R165	QRSA08J-181YN	RESISTOR
	R166	QRSA08J-333YN	RESISTOR
	R167	QRSA08J-562YN	RESISTOR
	R168	QRSA08J-272YN	RESISTOR
	R169	QRSA08J-181YN	RESISTOR
	R170	QRSA08J-272YN	RESISTOR
	R171	QRSA08J-681YN	RESISTOR
	R172	QRSA08J-562YN	RESISTOR
	R173	QRSA08J-222YN	RESISTOR
	R174	QRSA08J-222YN	RESISTOR
	R175	QRSA08J-102YN	RESISTOR
	R176	QRSA08J-222YN	RESISTOR
	R177	QRSA08J-471YN	RESISTOR
	R178	QRSA08J-272YN	RESISTOR
	R179	QVZ3531-472	V RESISTOR
	R180	QVZ3531-472	V RESISTOR
	R181	QRSA08J-332YN	RESISTOR
	R182	QRSA08J-332YN	RESISTOR
	R183	QRSA08J-392YN	RESISTOR
	R184	QRSA08J-103YN	RESISTOR
	R185	QRSA08J-103YN	RESISTOR
	R186	QRSA08J-103YN	RESISTOR
	R187	QRSA08J-562YN	RESISTOR
	R188	QRSA08J-103YN	RESISTOR
	R189	QRSA08J-562YN	RESISTOR
	R190	QRSA08J-102YN	RESISTOR
	R191	QRSA08J-682YN	RESISTOR
	R192	QRSA08J-333YN	RESISTOR
	R193	QRSA08J-333YN	RESISTOR
	R194	QRSA08J-102YN	RESISTOR
	R195	QRSA08J-562YN	RESISTOR
	R196	QRSA08J-102YN	RESISTOR
	R197	QRSA08J-182YN	RESISTOR
	R198	QRSA08J-153YN	RESISTOR
	R199	QRSA08J-473YN	RESISTOR
	R200	QRSA08J-104YN	RESISTOR
	R201	QRSA08J-104YN	RESISTOR
	R202	QRSA08J-562YN	RESISTOR
	R203	QRSA08J-102YN	RESISTOR
	R204	QRSA08J-562YN	RESISTOR
	R205	QRSA08J-562YN	RESISTOR
	R206	QRSA08J-102YN	RESISTOR
	R207	QRSA08J-562YN	RESISTOR
	R208	QVZ3531-103	V RESISTOR
	R209	QRSA08J-103YN	RESISTOR
	R210	QVZ3531-103	V RESISTOR
	R211	QRSA08J-103YN	RESISTOR
	R212	QRSA08J-103YN	RESISTOR
	R213	QRSA08J-104YN	RESISTOR
	R214	QRSA08J-103YN	RESISTOR
	R215	QRSA08J-103YN	RESISTOR
	R216	QRSA08J-103YN	RESISTOR
	R217	QRSA08J-222YN	RESISTOR
	R218	QRSA08J-392YN	RESISTOR
	C89	QER41CM-476	E CAPACITOR

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C90	QER41AM-107	E CAPACITOR
	C91	QCTA1CH-101	CAPACITOR
	C92	QCYA1HK-223	CAPACITOR
	C93	QCTA1CH-680	CAPACITOR
	C94	QCTA1CH-100	CAPACITOR
	C95	QCTA1CH-221	CAPACITOR
	C96	QER41CM-106	E CAPACITOR
	C97	QCYA1HK-223	CAPACITOR
	C98	QER41CM-476	E CAPACITOR
	C99	QCYA1HK-223	CAPACITOR
	C100	QFN41HK-473	M CAPACITOR
	C101	QER41CM-476	E CAPACITOR
	C102	QCYA1HK-223	CAPACITOR
	C103	QER41CM-476	E CAPACITOR
	C104	QCYA1HK-223	CAPACITOR
	C106	QER41HM-474	E CAPACITOR
	C107	QER41CM-106	E CAPACITOR
	C108	QER41CM-476	E CAPACITOR
	C109	QCYA1HK-223	CAPACITOR
	C110	QER41CM-106	E CAPACITOR
	C111	QER41CM-476	E CAPACITOR
	C112	QCTA1CH-271	CAPACITOR
	C113	QCYA1HK-223	CAPACITOR
	C114	QCTA1CH-391	CAPACITOR
	C115	QCTA1CH-560	CAPACITOR
	C116	QFN41HK-122	M CAPACITOR
	C117	QER41CM-106	E CAPACITOR
	C118	QCYA1HK-223	CAPACITOR
	C119	QER41CM-476	E CAPACITOR
	C120	QCYA1HK-223	CAPACITOR
	C121	QER41CM-106	E CAPACITOR
	C122	QER41CM-106	E CAPACITOR
	C123	QFN41HK-473	M CAPACITOR
	C124	QER41CM-476	E CAPACITOR
	C125	QFN41HK-473	M CAPACITOR
	C126	QFN41HK-473	M CAPACITOR
	C127	QER41CM-476	E CAPACITOR
	C128	QCYA1HK-223	CAPACITOR
	C129	QER41CM-476	E CAPACITOR
	C130	QCYA1HK-223	CAPACITOR
	C131	QER41CM-476	E CAPACITOR
	C132	QCYA1HK-223	CAPACITOR
	C133	QER41CM-476	E CAPACITOR
	C134	QER41CM-476	E CAPACITOR
	C135	QER41CM-476	E CAPACITOR
	C136	QCYA1HK-223	CAPACITOR
	C137	QER41CM-226	E CAPACITOR
	C138	QER41CM-226	E CAPACITOR
	C139	QCYA1HK-223	CAPACITOR
	L26	PU53223-180J	COIL
	L27	PU53223-390J	COIL
	L28	PU53223-221J	COIL
	L29	PU53223-221J	COIL
	L30	PU53223-221J	COIL
	L31	PU53223-221J	COIL
	L32	PU53223-221J	COIL
	L33	PU53223-221J	COIL
	L34	PU53223-221J	COIL
	L35	PU53223-221J	COIL
	L36	PU53223-221J	COIL
	L37	PU53223-221J	COIL
	L38	PU53223-221J	COIL
	SW2	PU54440	SWITCH
	PJ1	PGZ00802-10	MICRO HEADER
	PJ2	PGZ00802-10	MICRO HEADER

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	TP6	PU56008	TEST PIN, X6

-FM R/P SUB1 BOARD ASSY-

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK40019A	FM R/P SUB1 ASSY
	R103	QRD167J-222	RESISTOR
	R234	QRD167J-680	RESISTOR
	C144	QCS11HJ-391	CAPACITOR
	L39	PU48530-100J	COIL
	CN1	PGZ00835-01	CONNECTOR, X2

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6.2.47 VIDEO CONNECTOR BOARD ASSEMBLY <71>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK30013A-02	VIDEO CONNECTOR BOARD ASSY
	R1	QRD162J-750	RESISTOR
	R2	QRD167J-750	RESISTOR
	C1	QCF31HP-103	CAPACITOR
	C2	QCF31HP-103	CAPACITOR
	C3	QCF31HP-103	CAPACITOR
	C4	QCF31HP-103	CAPACITOR
	C5	QCF31HP-103	CAPACITOR
	L1	PU48530-101J	COIL
	SW1	QSS1F12-L01	SLIDE SWITCH
	CN1	PU59513-4	CAP HOUSING
	CN2	PU59513-5R	CAP HOUSING
	CN3	PU59513-5Y	CAP HOUSING
	CN4	PU59513-4	CAP HOUSING
	CN5	PU59513-5	CAP HOUSING
	CN6	PU59513-4R	CAP HOUSING
	CN7	PU59513-2	CAP HOUSING
	CN8	PU59513-5	CAP HOUSING
	CN9	PU59513-4Y	CAP HOUSING

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6.2.48 AUDIO CONNECTOR BOARD ASSEMBLY <72>

*⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PRK10012A1-01	AUDIO CONNECTOR BOARD ASSY
	IC1	NJM2068S-D	IC
	IC2	NJM2068S-D	IC
	IC3	NJM2068S-D	IC
	IC4	NJM2068S-D	IC
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	D3	1SS133	DIODE
	D4	1SS133	DIODE
	D5	1SS133	DIODE
	D6	1SS133	DIODE
	D7	1SS133	DIODE
	D8	1SS133	DIODE
	D9	1SS133	DIODE

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	D10	1SS133	DIODE
	D11	1SS133	DIODE
	D12	1SS133	DIODE
	D13	1SS133	DIODE
	D14	1SS133	DIODE
	D15	1SS133	DIODE
	D16	1SS133	DIODE
	R1	QRD161J-122	RESISTOR
	R2	QRD161J-122	RESISTOR
	R3	QRD161J-122	RESISTOR
	R4	QRD161J-122	RESISTOR
	R5	QRD161J-132	RESISTOR
	R6	QRD161J-132	RESISTOR
	R7	QRD161J-132	RESISTOR
	R8	QRD161J-132	RESISTOR
	R9	QRV141F-5621AY	CMF RESISTOR
	R10	QRV141F-5621AY	CMF RESISTOR
	R11	QRV141F-5621AY	CMF RESISTOR
	R12	QRV141F-5621AY	CMF RESISTOR
	R13	QRV141F-5621AY	CMF RESISTOR
	R14	QRV141F-5621AY	CMF RESISTOR
	R15	QRV141F-5621AY	CMF RESISTOR
	R16	QRV141F-5621AY	CMF RESISTOR
	R17	QRV141F-8250AY	CMF RESISTOR
	R18	QRV141F-8250AY	CMF RESISTOR
	R19	QRV141F-8250AY	CMF RESISTOR
	R20	QRV141F-8250AY	CMF RESISTOR
	R21	QRV141F-1431AY	CMF RESISTOR
	R22	QRV141F-1431AY	CMF RESISTOR
	R23	QRV141F-1431AY	CMF RESISTOR
	R24	QRV141F-1431AY	CMF RESISTOR
	R25	QRV141F-3921AY	CMF RESISTOR
	R26	QRV141F-3921AY	CMF RESISTOR
	R27	QRV141F-3921AY	CMF RESISTOR
	R28	QRV141F-3921AY	CMF RESISTOR
	R29	QRV141F-4991AY	CMF RESISTER
	R30	QRV141F-4991AY	CMF RESISTER
	R31	QRV141F-4991AY	CMF RESISTER
	R32	QRV141F-4991AY	CMF RESISTER
	R37	QRV141F-4991AY	CMF RESISTER
	R38	QRV141F-4991AY	CMF RESISTER
	R39	QRV141F-4991AY	CMF RESISTER
	R40	QRV141F-4991AY	CMF RESISTER
	R41	QRV141F-4991AY	CMF RESISTER
	R42	QRV141F-4991AY	CMF RESISTER
	R43	QRV141F-4991AY	CMF RESISTER
	R44	QRV141F-4991AY	CMF RESISTER
	R45	QRV141F-4991AY	CMF RESISTER
	R46	QRV141F-4991AY	CMF RESISTER
	R47	QRV141F-4991AY	CMF RESISTER
	R48	QRV141F-4991AY	CMF RESISTER
	R53	QRV141F-4991AY	CMF RESISTER
	R54	QRV141F-4991AY	CMF RESISTER
	R55	QRV141F-4991AY	CMF RESISTER
	R56	QRV141F-4991AY	CMF RESISTER
	R65	QRV141F-7681AY	CMF RESISTOR
	R66	QRV141F-7681AY	CMF RESISTOR
	R67	QRV141F-7681AY	CMF RESISTOR
	R68	QRV141F-7681AY	CMF RESISTOR
	R69	QRV141F-2213AY	CMF RESISTOR
	R70	QRV141F-2213AY	CMF RESISTOR
	R71	QRV141F-2213AY	CMF RESISTOR
	R72	QRV141F-2213AY	CMF RESISTOR
	R73	QRV141F-3651AY	CMF RESISTOR
	R74	QRV141F-3651AY	CMF RESISTOR
	R75	QRV141F-3651AY	CMF RESISTOR
	R76	QRV141F-3651AY	CMF RESISTOR
	C1	QEPA1CM-226	NP E CAPACITOR
	C2	QEPA1CM-226	NP E CAPACITOR
	C3	QEPA1CM-226	NP E CAPACITOR
	C4	QEPA1CM-226	NP E CAPACITOR
	C9	QCBB1HJ-101	CAPACITOR
	C10	QCBB1HJ-101	CAPACITOR
	C11	QCBB1HJ-101	CAPACITOR
	C12	QCBB1HJ-101	CAPACITOR
	C13	QEPA1CM-226	NP E CAPACITOR
	C14	QEPA1CM-226	NP E CAPACITOR
	C15	QEPA1CM-226	NP E CAPACITOR
	C16	QEPA1CM-226	NP E CAPACITOR
	C17	QEK41CM-107	E CAPACITOR
	C19	QEK41CM-107	E CAPACITOR
	C21	QEK41CM-107	E CAPACITOR
	C23	QEK41CM-107	E CAPACITOR
	C29	QCBB1HJ-101	CAPACITOR
	C30	QCBB1HJ-101	CAPACITOR
	C31	QCBB1HJ-101	CAPACITOR
	C32	QCBB1HJ-101	CAPACITOR
	C33	QFN31HJ-102	M CAPACITOR
	C34	QFN31HJ-102	M CAPACITOR
	C35	QFN31HJ-102	M CAPACITOR
	C36	QFN31HJ-102	M CAPACITOR
	C37	QEPA1CM-106	NP E CAPACITOR
	C38	QEPA1CM-106	NP E CAPACITOR
	C39	QEPA1CM-106	NP E CAPACITOR
	C40	QEPA1CM-106	NP E CAPACITOR
	L1	PU48530-8R2J	COIL
	L2	PU48530-8R2J	COIL
	L3	PU48530-8R2J	COIL
	L4	PU48530-8R2J	COIL
	L5	PU48530-8R2J	COIL
	L6	PU48530-8R2J	COIL
	L7	PU48530-8R2J	COIL
	L8	PU48530-8R2J	COIL

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* 6.2.49 TIMECODE CONNECTOR BOARD ASSEMBLY <73>*

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	PWBA	PRK30012A-01	TIMECODE CONN.B.ASSY,BR-S811E
		PRK30012B-01	TIMECODE CONN.B.ASSY,BR-S611E
	Q101	DTA124ES	TRANSISTOR
	R101	QRD167J-223	RESISTOR
	R102	QRD167J-274	RESISTOR
	R103	QRD167J-332	RESISTOR
	C101	QCVB1CM-103	CAPACITOR
	C102	QCVB1CM-103	CAPACITOR
	C103	QCVB1CM-103	CAPACITOR
	C104	QCVB1CM-103	CAPACITOR
	SW1	PGZ00469-02	SLIDE SWITCH
	SW2	PGZ00470-02	SLIDE SWITCH,BR-S611E
	SKT1	PU44398	FUSE SOCKET, X2
	CN1	PU59513-3R	CAP HOUSING
	CN3	PU59513-4Y	CAP HOUSING
	CN4	PU59513-4	CAP HOUSING

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	CN5	PU59513-4R	CAP HOUSING
	CN6	PU59513-3	CAP HOUSING

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6.2.50 SUB REGULATOR BOARD ASSEMBLY <74>

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PWBA	PGE30198A-03	SUB REGULATOR BOARD ASSY
⚠	IC1	TA78015AP	IC
⚠	IC2	TA79015P	IC
⚠	Q1	2SD1276(PQ)	TRANSISTOR
	Q2	2SD638R	TRANSISTOR
	Q3	2SD638R	TRANSISTOR
	D1	RD15EB	ZENER DIODE
⚠	DA1	FMM-22S	DIODE
⚠	DA2	FMM-22R	DIODE
	R1	QRD162J-472	RESISTOR
	R2	QRD162J-223	RESISTOR
	R3	QRD162J-103	RESISTOR
	R4	QRD162J-103	RESISTOR
	C1	QEL71VR-478	E CAPACITOR
	C2	QEL71VR-478	E CAPACITOR
	C3	QCF11HP-473	CAPACITOR
	C4	QEE51EM-475	TANTAL CAPACITOR
	C5	QCF11HP-473	CAPACITOR
	C6	QEE51EM-475	TANTAL CAPACITOR
	C7	QETA1EM-477	E CAPACITOR
	C8	QETA1EM-477	E CAPACITOR
⚠	C9	QFH52AM-224	MM CAPACITOR
⚠	C10	QFH52AM-224	MM CAPACITOR
⚠	HS1	PGD40694	HEAT SINK,FOR IC1,2
	SCW1	SDSP3010Z	SCREW,FOR IC1,2
⚠	SKT1	PU51212	FUSE CLIP, X8
	SPC1	PGZ00150	TRANSIS SPACER,FOR IC1,2
	SPC2	PU41624-6	ISOLATE.WASHER,FOR IC1,2
	TP1	PU54983	TEST PIN
⚠	CN1	PU50597-3	CAP HOUSING
	CN2	PU43351-3	CAP HOUSING

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION